THE

AMERICAN MEDICAL AND PHILOSOPHICAL REGISTER.

JULY, 1810.

ORIGINAL COMMUNICATIONS.

I.

REMARKS *upon the incorrect manner in which* IRON RODS *are sometimes set up for defending houses from* LIGHTNING. *Communicated to the Editors, by* HUGH WILLIAMSON, M. D. L. L. D. &c. &c.

As sundry buildings have lately been injured by lightning, though they were provided with conductors or iron rods, it has been questioned by some of our fellow-citizens whether such rods can be deemed a sure defence against the violent explosions of the electric fluid.

A house on this island, about seven miles from the City-Hall, was struck with lightning, and considerably injured, although is was armed with an iron rod.

Trinity Church in this city is armed with a large iron rod, but the lightning, some years ago, forsook the rod,

four or five feet above the ground, and shattered the top of a wooden fence that inclosed the church yard.

A house in Savannah, the property of Mr. B. Maurice, was struck with lightning, and some furniture in the parlour considerably injured, although that house was provided with a rod. Two or three other instances have occurred to the southward, not unlike the cases mentioned, of houses being affected by lightning that were provided with rods. It is not worth while to detail the particulars, for in each case the lightning rod was unjustly blamed. The injury arose from the inattention or mistake of those who erected the rods, or who should have kept them in order.

By showing the error in two or three cases, the reader will be enabled to account for every accident of the kind.

It is known that iron is an excellent conductor of the electric fluid. Water is also a very good conductor. There are other bodies through which it will pass, but with considerable difficulty, as dry clay, dry wood, and stone. But it will not, by any means, pass through glass, bees wax, &c. Hence it follows, that an iron rod will conduct a flash of lightning from a cloud to the moist earth, along a wall of wood, brick or stone, without affecting the wall. But if the lower extremity of the rod terminate in dry sand, the electric fluid will only be partially conducted by the rod. And if the lower extremity of the rod should chance to terminate upon a large cake of wax or plate of glass, the whole flash of lightning would forsake the rod and enter the house, through which it could pass, though with difficulty, shattering the wood, &c.

The electric fluid, in passing from a cloud to the ground, always avails itself of the best conductors. Iron is one of the best; but if that conductor be imperfect in any part, the fluid will divide and pass to the ground by other conductors, or by means of other bodies. In each of the three cases mentioned, it has been admitted that there was an iron rod, of sufficient magnitude, and the rod extended to the ground, but notwithstanding that circumstance, part of the lightning forsook the rod and did some damage. We account for those accidents, by putting the reader in mind, that though water be an excellent conductor of the electric fluid, dry clay, stones, or sand, are bad conductors. Hence it follows, that the ground adjoining any house will receive the lightning, or conduct it from the iron rod, with more or less facility, according as it is more or less saturated with water. In other words, it is the moisture in the earth, and not the earth itself, that gives an easy and free passage to the electric fluid. Keeping this fact in view, let us try to account for the circumstance of some buildings being injured by lightning although they were armed with an iron rod.

The house referred to, near this city, is a frame building two stories high. It is built upon a large rock of granite. The rock is covered, near the house, with light soil five or six inches deep. There had been no rain for two or three weeks before the rain in question, and the soil that covered the rock was nearly dry. The electrical rod terminated on the rock at the bottom of the chimney. A flash of lightning struck the rod, a few seconds before it began to rain. In that case, the soil upon the rock was not sufficiently moist to convey the lightning freely from

the rod; and the rock refused to convey it. The consequence was, that though the rod conveyed a considerable part of the electric fluid to the surface of the rock, a considerable part of the fluid forsook the rod before it reached the ground, in quest of other means of conveyance. Part of it left the rod, opposite the eaves of the house, and ripped off the cornice on both sides. A greater part of it left the rod about four feet above the ground. It passed through the chimney, a stone wall, breaking out part of the cement: it then descended to the kitchen cellar, breaking off the plaster from the inside of the wall, and shattered part of the kitchen floor. The remainder of the lightning continued to pass by the rod until it entered the ground. It then passed along the surface of the rock, in two or three directions, ripping the sod from the rock. Its course could be traced 30 or 40 feet; for it made ridges, such as are usually made by moles. The ridge, as I suspect, was caused by the sudden expansion of the air which was heated by the motion of the electric fluid.

From this detail it is clear, that if there had been a previous wet season, or if that thunder shower had come on a few minutes before the rod was struck by the lightning; or if the rod had been lead along the surface of the rock to its edge, and there sunk into the moist earth; in either case the house would have escaped injury. But as the first and second cases were contingent, the third should have been attended to.

Trinity church, in this city, is guarded by a proper iron rod; but the rod enters the ground, which is chiefly composed of coarse sand, by the side of a dry wall.

Hence it followed, that near the beginning of a storm, the ground not being saturated with moisture, part of a flash of lightning forsook the rod, and shattered part of the adjoining fence, being solicited by the iron spikes that were on the top of the fence. As the attraction of those spikes must have been inconsiderable, for they did not communicate with the earth, except by dry wood, it is clear that the lightning would not have forsaken the rod, if it had terminated in moist clay.

The house of Mr. Maurice, in Savannah, like most other houses in that city, is built upon a body of silicious earth, or white sand, which becomes dry in a few hours after a fall of rain. The iron rod, that was attached to his house, was inserted, as usual, a few inches into the sand. During a thunder gust, the sand being dry, the lightning forsook the rod, and injured part of the furniture in the parlour. If the rod had been made to penetrate six or eight feet into the earth, as it should do in all such dry sandy ground, the furniture would have been perfectly safe.

A gentleman some years ago, in a warm climate, complained to me that he had been considerably affected, in his parlour, by a flash of lightning, though his house was armed with an iron rod. Wishing if possible to discover the cause, I examined the rod, and observed that the cattle had been licking away the earth at the end of the house, so that the rod did not touch the ground by six inches. Such are the cases in which people complain that lightning rods do not discharge their duty.

It is conceived that the above observations may claim some attention in this city, because many houses, on this island, are built upon a rocky foundation, or upon coarse sand that retains little moisture. In all such cases, particular care should be taken to have the rod inserted so deep into the earth, that it may terminate with certainty in moist ground.

HUGH WILLIAMSON.

II.

OBSERVATIONS *on the* SPOTTED FEVER, *as it appeared in* ORANGE COUNTY, *State of New-York, in* 1808 *and* 1809. *Communicated in a Letter from Doctor* DAVID R. ARNELL, *of Goshen, to Dr.* DAVID HOSACK, *Professor of Botany and Materia Medica, in Columbia College, New-York.*

DEAR SIR,

In compliance with your request, I now give you a history of the fever which prevailed in the town of Minisinck some time since, and which proved so mortal among those it attacked. In doing this, I shall take up the queries of your letter in the order which you have given them.

1st. What were the symptoms of the disease in its differerent stages?

The patients affected were first taken with a cold chill or slight shivering, and almost at the same instant complained of pain in the limbs, back, and particularly in the

abdominal region; head-ache, vertigo and coryza. This state lasted from ten to twenty minutes, when it was succeeded by a slight sensation of warmth on the surface of the body, sickness of stomach, vomiting, delirium, great anxiety and restlessness; tossing in the bed, involuntary motions of the head, which appeared frequently to be drawn to one side; mouth and tongue moist and clammy; pulse a little sunk, sharp and quick. Blood drawn in this stage of the disease showed no buffy coat nor any other morbid appearance: the matter vomited was saffron-coloured bile in large quantities, but without any diseased appearance. This state continued from twelve to fifteen hours, when petechiæ, about the size of split peas, but of irregular shape, appeared all over the surface of the body; they looked like what are usually termed blood blisters, only they were not raised from a level with the surface, but were of a dark, livid colour. Anxiety and restlessness increased; the colour of the skin was not changed, except where those spots appeared; the countenance for the most part sunk, and the eyes drawn up in the head; these symptoms continued to increase until a general comatose state was brought on, when death closed the scene.

2d. The general duration of the disease; when the patient recovers, and when it proves fatal?

	Years.		*Hours.*
A child of Phineas Terry,	Æt. 6,	taken May 13th, 1808, died in	28
Jesse M'Whorter,	22,	Nov. 27th,	24
Miss Quick,	17,	29th,	24
Howel Roberts,	10,	Dec. 12th,	15
John Steward	16,	May 19th, 1809,	48
Jeremiah Overton,	26,	25th,	72
Mrs. Eldred,	24,	June 12th, convalesc. in	24

3d. The persons it attacked, if natives or foreigners? If in habits of temperance, or irregular in their manner of living?

The persons it attacked were all natives of this country, and regular in their habits and manner of living.

4th. The state of the country in which it occurred, the time, the season, if dry or moist, the temperature, &c.?

The town of Minisinck is bounded on the east by the great drowned lands, and the Wallkill, which circumstance renders the inhabitants liable to intermittent, remittent, and bilious fevers in the fall of the year; but at the time these cases appeared it was remarkably healthy; it being too early in the spring for inflammatory, and too late in the fall for bilious diseases. The spring was moist, and the autumn dry: temperature various.

5. The mode of treatment. Did they bear the lancet well? What were the effects of *emetics?* Did they throw up much bile? What was the effect of mercury? Did you employ the bark, and what were its general effects?

In some cases blood was taken in the early stage of the disease, but it did not produce that desired good effect which was expected from it: the blood drawn appeared like that of a person in full health, no unusual buffy coat, neither was the crassamentum broken down or destroyed. A cathartic of jalap and calomel was next administered; after the operation of which, I endeavoured to procure a sweat: this was attempted by warm herb teas, with spirits, and the common antimonial mixture; but the time was so short, there was but little oppor-

tunity of doing any thing. Emetics were not tried. Much bile was thrown up during the short course of the disease. Mercury was used in the case of Mrs. Eldred with happy effect; but I believe it was not used to the same extent in any other case. Immediately after she was taken, she was bled by Dr. Nathaniel Elmer, her attending physician, who administered a dose of jalap and calomel: I saw her about three hours after she was taken, and advised the use of calomel very freely, which was persisted in, together with wine, for twelve hours. When the petechial spots made their appearance, which were of a bright red colour, the uneasy symptoms began to abate, and in about twenty-four hours she was entirely free from complaint, but remarkably low and exhausted. She was supported by wine and other stimulants, and had a speedy recovery.

6th. What proportion of those attacked died?

By reverting to the second query answered, you will find that six out of seven died.

7th. Did the disease commence with a chill, or shaking? Were they better or worse on alternate days? Were there regular remissions and manifest exacerbations?

The disease uniformly commenced with a chill, and latterly so as to induce violent shaking. There were no remissions or exacerbations.

8th. When it proved fatal, at what period did it take place? Was the skin yellow?

It generally proved fatal in about twenty-four hours, and the skin after death, for some distance around the spots, became dark coloured and livid, though on the other parts of the body it was not changed.

9th. Did patients manifest the same thirst and dryness of tongue as in other fevers?

The tongue and mouth were generally moist and clammy; the patients were so uniformly delirious a few hours after the attack, that we could learn nothing from them but by observation; but they did not appear to drink much when it was offered to them.

10th. Was the stomach affected in the last stages of the disease? Was the usual termination, when fatal, a *black vomit* resembling coffee grounds, or blood, or mere dirty water?

Although the stomach appeared to be affected through the first stages of the disease, yet it did not increase in the last. Most generally a stupid comatose state appeared a few hours before death; the vomiting ceased, the extremities became cold, and the patient sunk away under a load of disease. In no stage did the matter which they vomited appear like *coffee grounds*, or *blood*, or *mere dirty water*.

III.

OBSERVATIONS *on the* FEVERS *of* NORTH-CAROLINA. *By Doctor* JAMES NORCOM. *Communicated to Doctor* D. HOSACK.

LEETTER I.

Philadelphia, March 30th, 1810.

DEAR SIR,

Not having received your's of the 23d instant, until the day before yesterday, I had it not in my power to reply sooner. But I hasten now, as far as time and recollection will serve, to answer *some* of the more important queries which you have proposed to my consideration. To answer *all* of them correctly or satisfactorily would require more experience, and a greater talent for observation, than I can boast. However, all that I can distinctly remember relative to the object of which you are in pursuit, I will cheerfully communicate; and, as I presume any opinion or speculation of mine will be as useless as it might be visionary or erroneous, shall confine myself to the relation of such facts and circumstances as have fallen under my own immediate observation.

Edenton, the place of my residence, and the principal scene of my practice for ten years past, is a little seaport town in North-Carolina, is situated on the north side of Albemarle Sound, in one of the eastern districts of the state. It is nearly surrounded by a country which is for the most part low and swampy, and in which there is occasionally to be found a great deal of stagnant water,

rendered offensive by dead vegetable matters that decay and putrefy in them during the heat of summer. Our summers, as regards their temperature, are extremely irregular: sometimes being pleasant throughout, and sometimes marked with intemperate heats and sultry weather. The hot weather generally sets in about the last of May, and ends, sooner or later, in the month of September; though we often have some days in April and October that are exceedingly warm. The mercury, in our hottest months, commonly fluctuates between eighty and ninety degrees of Farenheit's thermometer in the shade, if observed at three o'clock in the afternoon. For a few days together it sometimes rises to ninety-two, three, four, five, and now and then as high as ninety-six or seven. Sometimes, on the other hand, for a day or two it will fall to seventy-two, to sixty-eight, six, four two, and once in a while below sixty. The greatest degree of heat experienced in this part of the state, takes place generally in June about the solstice; but that which is by far the most disagreeable and oppressive, which is most uniform, and continues longest, occurs in August and the first weeks in September. The same variety is observable in our seasons with respect to rain. Sometimes we have the fervours of summer tempered with regular and refreshing showers; sometimes they are characterized by a succession of gusts or tornadoes, with thunder and lightning, and cataracts of rain; and at other times we have frequent copious distillations every day for weeks together, deluging the country, sweeping away bridges, and drowning our crops in every direction. Then again we have summers extremely dry; insomuch that even the meadows and marshes lose their humidity, vegetation of every kind declines, and the earth presents

a surface as parched and dreary as the plains of Hindostan. There is no particular time when rain falls, or is to be with certainty expected. Sometimes it descends in the greatest quantity in June and July. Sometimes in August and September; but it has always appeared to me that August, taking it altogether, and one year with another, is the dryest and warmest of the summer months. In our dryest and wettest seasons we are most exempt from bilious fevers of every description, and summers uniformly wet, or uniformly dry, have invariably been remarked in every respect to be the most healthy.

The annual remitting fever of Edenton, and the country in its vicinity, usually begins with the month of August; and *I* have remarked that the most malignant cases always occur in this month, or during the hot weather of September. As the autumn advances, and the heat decreases, fevers of every grade seem disposed to assume more and more the character of intermittents, which generally conclude the sickness of the season. The remitting fever with us, as far as I have been able to ascertain, is most fatal in seasons *tending* to dryness, and accompanied with unusual heat. In its character and symptoms it is as various as the circumstances of climate and season under which it exists. Sometimes persons are seized violently without any previous indisposition, with a chill, or mixed sensations of heat and chilness, that last for an hour or two, and are succeeded by a severe fever, with pains in the head and back, a full, hard, quick, and bounding pulse, great thirst, a hot and dry skin, hurried respiration, with redness or a muddy suffusion of the eyes, and a disposition to delirium. The stomach, in this form of the fever, does not seem to be affected with much

sickness or nausea; yet vomiting is a frequent occurrence, and it is with difficulty that a patient can retain the least particle of food whatever. A sense of heat or burning is generally complained of, which is very distressing, and occasions every thing to be thrown up that is swallowed if it contain stimulus, or be in any way substantial. The exacerbations of the fever are oftenest quotidian, returning generally in the afternoon, and the intervals short, with an imperfect remission, without sweating, or any considerable abatement of pain. The most successful mode of treating this inflammatory or malignant remitting fever, is by bleeding, purging, emetics, diaphoretics, and diluents, adapted, in quantity and continuance, to the circumstances of the case. The bark is a medicine which here does little or no service: on the contrary, I have known it do much harm, by increasing the troublesome affection of the stomach, which never fails to aggravate the most lenient form of the disease. In this fever we are in the habit of giving bark to remove debility and exhaustion, which are its consequences, but seldom with a view of stopping or curing the disease. Mercury is a remedy to which we are obliged occasionally to resort in the cure: I have never done good with it myself, except in the decline of the fever, after plentiful evacuations.

Another form of remitting fever, which is the true *bilious* remittent of our climate, comes on with a distinct chilly fit, of greater or less duration, and is succeeded by the ordinary symptoms of fever, with a frequent, full, and soft pulse, such as may almost always be felt in the paroxysm of an intermittent. It is not accompanied with much acute pain, but great aching and restlessness, nausea

or vomiting, with ejections of bile, or matter exhibiting a bilious appearance. The type of this fever is generally that of a double tertian, having an exacerbation one day in the afternoon, the next, in the evening. Its remissions are more distinct than those of the inflammatory remittent: it seldom requires bleeding; and after the exhibition of proper intestinal evacuants, invariably yields to the bark. It is rarely fatal, and when it is, seldom terminates in less than from ten to sixteen or seventeen days. Towards its close it sometimes puts on the garb of typhus, and does not end in death, or a recovery, in less than from twenty to thirty days. The fever last described is that which we usually meet with, which affects the greatest number of persons at a time, and is the least mortal of any of our continued fevers. Neither the inflammatory nor the bilious remittent, is very fatal; the former, however, is much the more so, in the proportion I should suppose of at least three to one. It either ends fatally in from four to eight or nine days, or favourably somewhere between the eighth and thirteenth, but is not unfrequently protracted to a later period: the fatal issue generally occurs early in the disease.

The tongue in the bilious remittent is commonly furred and yellow; the skin likewise exhibits a yellow hue, which increases as the fever progresses: whereas in the inflammatory remittent, the tongue exhibits the common febrile fur in most cases without yellowness, and the skin is hardly ever discoloured until about the close of the complaint. In two or three instances I have known the surface of the body to turn yellow soon after death, from the inflammatory remittent, when not the smallest discolouration had been observed before. The vomiting in

one of these fevers, or forms of fever, (which you please,) is different from that which attends the other: In the first it occurs with little nausea, or sickness; is seldom attended with bilious discharges; affords scarce any relief, and is always increased by bark and stimulants. In the last it is preceded by great nausea, attended with large discharges of bile, gives the patient relief, and is very often to be removed altogether with bark, aromatics, and cordial drinks. Hemorrhages very rarely occur in either of these fevers; at least, they have seldom occurred in my practice. In a case or two I have seen blood effused from the gums, though, in which form of the disease, I do not now recollect. In a few days I hope I shall have leisure to furnish replies to your other questions, which I will certainly do very soon. In the mean time, with the best wishes,

I am, your's, &c.

JA. NORCOM.

LETTER II.

Philadelphia, April 8, 1810.

DEAR SIR,

Most of the questions you proposed to me in your letter of the 23d ult. I endeavoured to answer in my first reply. Some of them, however, have been neglected; but shall be referred to, if not fully answered, in the additional remarks I have now to offer.

Respecting the utility or the efficacy of emetics, in our remitting fevers, I presume a few words will suffice, af-

ter what has been said already. In the inflammatory remittent, attended with burning heat and oppressive anxiety about the precordia, neither spontaneous nor artificial vomiting appears to do good: the first does not often occur, and when it does, affords no relief; the last is seldom practised, and when it is, bile is not commonly discharged, or the patient materially relieved by the operation. On the contrary, emetics, in many cases in which I have prescribed them, or known them exhibited, have increased the affection of the stomach, and exasperated the symptoms of the disease to such a degree, as to induce a determination in my mind never to give them again in this particular form of it. In the bilious remittent, vomiting is a remedy of the utmost importance, and, if had recourse to in the beginning of the disease, never fails to do great service. Here, likewise, spontaneous vomitings, *though they sometimes go to excess and do mischief*, are generally serviceable. The two grades, forms, or species of fever which I have described, are rarely found to prevail extensively at the same time or season of the year.

During the prevalence of the bilious remittent, we now and then meet with cases marked with the symptoms, and requiring the treatment of the inflammatory remittent; and *they* occur *with us at least*, principally among strangers, more especially the natives of the northern and eastern states. But the position will hardly bear to be reversed; for I have generally observed, that during the prevalence of an inflammatory remittent, though we sometimes see cases that are considerably bilious, symptoms of inflammatory diseases almost invariably attend, and call for the use of antiphlogistic remedies. From the bilious remittent of Carolina, no age, sex, constitution, nor condition is exempt. To the inflammatory remittent, the

young, the robust, the plethoric, and *strangers* are peculiarly subject; and these last are oftenest the victims of the disease. Both these forms of fever are most severe and fatal, as I think I remarked before, about the latter end of summer or the beginning of autumn; that is, in proportion to the number of persons affected: yet from the much wider prevalence of their milder grades in the variable weather of autumn, the absolute number of deaths will, upon the whole, sometimes be the greatest in this latter season; and hence it is, that, strictly speaking, when we have the most sickness, we have comparatively the least mortality!

I am not quite certain that I have ever seen *the* black vomit in any of our endemic fevers; but *a* vomiting of black matter of various descriptions is no unfrequent occurrence. In 1799, when we had a true yellow fever in Edenton, I saw the genuine black vomit in several cases; but I do not believe I have ever seen *exactly* the same thing since: though I confess I have seen perhaps half a dozen cases in which my suspicions have been strongly excited. Hemorrhages from the nose and gums are occasionally met with in protracted cases ending fatally; and I remember one case of a malignant nature, in which a bleeding from the mouth took place, that ended in death in three or four days. Glandular swellings, so far as my observation has extended, have not been among the characteristics of any of our fevers. In most of the fatal cases of inflammatory remitting fever which have fallen under my notice, the heat of the skin has continued intense until a short time before dissolution, and the patient has expired in a paroxysm or exacerbation of fever. The bilious remittent, when about

to prove mortal in a majority of instances, puts on the garb of typhus, and terminates with the symptoms common in the last stage of that disease.

I have thus, sir, given you an account of two forms of fever, as they appear in the tract of country to which my practice has been confined; and all the continued remitting, or what are usually denominated bilious fevers, incident to our climate, *seem to me* to be only modifications, or variations of these two original and distinct diseases. Neither the inflammatory nor the bilious remittent always attack and progress precisely as in the history I have sketched. They both vary in their modes of attack, in duration, in violence, in the remissions and exacerbations that attend them, and in many of their less essential symptoms. Nevertheless, I feel persuaded that, from the description I have given, the peculiar and distinguishing character of each will be sufficiently manifest.

Very respectfully,

JA. NORCOM.

IV.

CONJECTURES, *respecting the* NATIVE CLIMATE *of* PESTILENCE; *in a letter to the editors of the Medical and Philosophical Register. By an* OBSERVER.*

THE frequent recurrence of a pestilential fever, in New-York and Philadelphia, since the year 1793, has

* Communications from the learned and ingenious writer of this paper will always be acceptable, and are solicited by the *editors*.

become the subject of painful apprehension to many of our fellow-citizens. They deem it probable that the golden age of our seaport towns is past, and that we have entered upon the age of clay. The ills of life, that cannot be avoided, are confessedly very numerous; and there is not any reason why we should create imaginary evils. I do not call an apprehension of the yellow fever an imaginary evil; nor should we neglect all prudent and practicable means, by which the frequent recurrence of that disease may be prevented: but I deem it improper that we should afflict ourselves by supposing that our lots are cast in the very *latitude of pestilence*, and that our climate is now beginning to shew that one of the greatest scourges of humanity is *its natural production*.

It is alleged, as I presume, that we live in the latitude of pestilence, because the plague, which, like the yellow fever, is a pestilential disease, has long infested the western parts of Asia, from the thirtieth to the forty-second degree of north latitude. That conclusion, as I think, is not fairly drawn from the premises.

There are some diseases, as we know, that chiefly prevail in cold climates; and there are other diseases that are the natural productions of a warm climate. Diseases of this kind are produced by a long continuance of heat, or of moisture and heat, whereby the quality of animal and vegetable productions, suspended in the atmosphere, are essentially changed, so that they become hostile to the human constitution, and produce the most fatal complaints. The yellow fever and the plague are generally thought to be diseases of this class. There are some remarkable circumstances in which those diseases resemble one another.

They are both very fatal.

They both depend upon a certain degree of heat. The plague seldom spreads when the degree of heat is below sixty or above eighty degrees, in Farenheit's thermometer. The yellow fever seems to require a long continuance of heat at eighty degrees for its origin. It may be communicated at a lower degree, but it is effectually destroyed by frost.

Both of these diseases require, beside the degree of heat mentioned, a certain diseased constitution of the atmosphere towards their propagation. Neither of them is contagious in a pure atmosphere.

It does not follow from either of those circumstances, that any part of the globe, above the tropics, should be deemed the latitude of pestilence. The contrary, as I think, is clear; for no disease that is constantly destroyed by cold can be indigenous in a climate were such a degree of cold prevails every year. From this it must follow, that though the yellow fever may exist at all times within the tropics, it must be counted an exotic plant in the state of New-York.

Perhaps I shall be told that the plague, though it cannot endure a high degree of heat, such a degree as prevails every year in Egypt, yet it is the natural production of that country. I am aware that any objection to this opinion may be deemed paradoxical; yet I question whether a particular zone or broad belt of this globe, extending from the 29th to the 43d degree of latitude, can, with propriety, be called the latitude of pestilence. There was

a time when Egypt, that most unfortunate of kingdoms, was more populous than it is at present, and contained larger cities than Cairo; but it was not in that age the seat of pestilence. We should infer, from the rapid increase of the Israelites in that country, that the climate was very healthy. But the testimony of Herodotus is clear and pointed on this subject. He says, that "after "the Africans, there is no people in health and constitu- "tion to be compared with the Egyptians. To this ad- "vantage, the climate, which here is subject to no varia- "tion, may effectually contribute." While the Egyptians were governed by their native princes, and while they continued to be industrious, Egypt was a healthy country. But after those people had been reduced to a foreign yoke, the spirit of enterprise forsook the land; their canals were neglected, the waters stagnated on the surface, and pestilential diseases were promoted. We have no correct information when it was that the disease, emphatically called the plague, first appeared in the world. It seems to have originated long before the small pox, but the native place of neither can be traced. The Carthaginians were afflicted by the plague at least two thousand three hundred years ago. Thucydides speaks of a plague that wasted Athens, about 2280 years ago. Procopius speaks of a plague that appeared about the 540th year of the Christian era, which threatened the very existence of the human race. It did not come, as he says, upon one part of the world alone, nor in one season of the year. It afflicted the whole world, and all conditions of men, sparing none. Some took it in summer, and some in winter. It spared neither island, cave, nor mountain.

In the year 1346, a plague began in the northern parts of China, thence spreading through Asia, it crossed into Europe by the way of Constantinople; thence it traversed Greece, Italy, Germany, France, and England. In the year 1771, the plague raged in Moscow, in the 55th degree of latitude. England is not considered to be in the latitude of pestilence, but the plague has often visited that island, since the English have been concerned in the Levant trade. Marseilles, in the 43d degree of latitude, has been visited by the plague, ten or fifteen times, since the inhabitants of that city began to trade on the coast of Asia Minor; but we cannot, with any degree of propriety, allege that Marseilles, more than other parts of France, is the native place of pestilence.

It was observed above, that the plague and yellow fever resemble one another in the circumstance of being infectious, whence it would follow, that both diseases may be imported. I am aware that it was long disputed, both in England and France, whether the plague itself be infectious. Although the plague, when it has appeared in Europe, always began in a trading city, that lately had some intercourse with a town or city in which the plague then prevailed, yet it has been obstinately contended, in every case, by some of the faculty, that the disease was not imported.

The plague appeared in Moscow when the Russians were at war with the Turks, and goods were imported that had been taken by plunder, from infected cities; but there were men who questioned whether the disease had been imported. When the plague breaks out in Cairo, Aleppo, or any city near the coast of Asia Minor,

the European merchants residing there, immediately shut themselves up in their houses, during the continuance of the disease. It is admitted that none of those who are shut up and do not touch any infected person, ever take the plague, though they converse every day, looking out of their windows, with hundreds who have the plague. They who touch infected persons, seldom fail to take the disease. These circumstances notwithstanding, there are men who zealously contend that the plague is not contagious. Gentlemen who allege that the plague is not contagious, and that it cannot be imported, support their opinions by observing, that the plague often breaks out in healthy cities, that have been carefully guarded, and where there cannot be any reason to suspect importation. This argument supposes that laws, in every case, are well executed; that officers always do their duty, and that there are no smugglers. But it has been fully established, that smugglers have carried infected and prohibited goods into healthy towns; that a fatal plague has soon after commenced, and that some of those very smugglers have taken the disease, and at the hour of death have confessed their crimes.

Whoever takes the trouble to read the history of the plague, in the several trading cities in which it has appeared; and observes the evasions that have been practised, and the perjuries that have been committed by masters of vessels, to conceal the cases of men who had died of the plague on board of their ships, lest they should be compelled to perform quarantine, will not be surprised that the origin of the plague, in many instances, should be unknown. The man who wilfully kills another is hanged as he should be; but the man who fraudulently in-

troduces a disease by which hundreds are destroyed, escapes the gibbet. Such is the unequal operation of laws.

I might have mentioned another circumstance in which there is some resemblance between the plague and yellow fever. They are both diseases about which medical men are apt to be mistaken, when they first appear. In the year 1720, when the plague appeared at Marseilles, it was a considerable time before some of the faculty would admit that the prevailing disease, however fatal, should be called the plague. It might be called a common epidemic, or any other fever except the plague. A ship had lately arrived from the Levant, on board of which two Turkish traders had died of the plague, as also five or six of the sailors, and the surgeon. Perhaps it was apprehended that the doctrine of importation might be established, by admitting that the prevailing disease was the plague. True it is, that the ship performed quarantine, but it is not true that all the passengers performed quarantine, nor is it true that the passengers brought no bundles and packages on shore. Nor is it true that the plague appeared in any other part of the city, before it appeared in the very street where those parcels were opened. The name of the disease was not fully established before forty thousand of the inhabitants had perished; the number that was destroyed by that visitation. In the year 1743, a ship arrived at Messina, from a port in which the plague prevailed. The captain and one of his people had died by the plague on the passage. The ship was destroyed, and the remainder of the crew performed quarantine. We are not informed whether any goods were secretly saved from the ship, before she was burnt; but a mortal disease very soon appeared in Messina.

A single physician had the hardihood to declare that it was the plague, but thirty-three physicians formally declared that it was a common epidemic distemper. The magistrates and the populace, for this reason, neglected all precautions. The death of forty-three thousand of the inhabitants was the unhappy consequence. We have seen a late instance in a neighbouring town, if we might compare small things with great, in which the medical tribe would not agree that the disease which then destroyed the inhabitants might be called the yellow fever.

The chief reason, as above stated, for supposing that the yellow fever is like to become an epidemic complaint, is, that we live in the latitude of pestilence, or the latitude of the plague. I have given some reasons for supposing that Cairo itself, in Egypt, is not situated in a region that is by nature subjected to the plague, nor is any other city between Cairo and Constantinople. It is believed that the plague is cherished at present in these cities by the obstinacy of the disciples of Mahomet, hence the character of that country. But if it should be admitted that the whole coast of the Mediterranean, from the Nile to the Hellespont, was by some constitution or law of nature subject to the plague, it would not follow that cities, on the sea-coast, in the United States, within the same degrees of latitude, are subject to the same or any similar disease. I cannot think of any two tracts of country on the face of the earth, between the same parallels of latitude, in which the situation of the inhabitants is more unlike one to the other, than the situation of the inhabitants of the two countries named.

People on the coast of Asia Minor have a continent to the eastward, that in many places, at no great distance, is a sandy desert that produces a fatal sirocco. It is a continent from which the summer winds are more oppressive than a dead calm. Our continent lies to the westward, from which, in the midst of summer, we have refreshing breezes. They have a sea to the westward, we have an ocean in the opposite direction. The inhabitants of China, from Nankin to the head of the Yellow Sea, and the people who live on the eastern coast of Japan, are situated nearly in the same manner that we are, with respect to land and water; but if they are frequently visited by the plague or yellow fever, that circumstance has escaped general notice. For these and other reasons of the same kind, I am induced to hope that the citizens of the United States, who live near the latitude of Constantinople, if their intercourse with hot climates be duly guarded, have little reason to apprehend the frequent returns of a pestilential fever.

The reader will be pleased to observe, that when I say the yellow fever is not to be considered as an indigenous complaint in this city, I speak only of the conclusion that should be drawn from a comparison of latitudes and situations. I say nothing about the matter of fact. I leave it to the medical gentlemen to determine whether the yellow fever be a native of this soil, and a disease that is not infectious; or whether it may not, like the plague, be an infectious disease, and one that may be imported. When I consider the *singular* manner in which those gentlemen reason, I presume it will be long before the question is determined. I deem the reasoning of those gentlemen, or some of them, to be of a *singular* quality, because the

conclusion does not follow the premises in the common logical form, but is drawn in direct contradiction to the premises. This may appear strange at first sight, but the reader shall have the sample of an argument in the common form, and one in the modern medical form: e. g.

The plague is a contagious disease. It has been and may be imported; therefore quarantines should be established, though at a considerable expense, to prevent the importation of that terrible disease. This is the old form of reasoning; and people in France and England reasoning in this manner, and acting accordingly, have long been exempted from the visitations of that disease. Here follows a specimen of the modern form of reasoning: viz. The yellow fever is a native disease. It is not contagious; it is not, and cannot be imported; therefore a host of officers should be kept up, at a great expense, to prevent it from being imported. In other words, to prevent the thing from being done which cannot be done. Would any man seriously advise that we should build a large fort and support a garrison at Albany, to prevent that city from being battered by ships of the line, when he knew that no such ship could come within fifty miles of the place? If such a man expected the command, his advice would be the more easily accounted for. But if he should get the command of such a garrison, he would hardly lose much of his sleep by watching.

Besides the circumstance mentioned, of medical men drawing their conclusions somewhat different from the common form, we have another reason for presuming that the question of the yellow fever being importable or not

importable, may be the subject of long debate. Gentlemen who say that the disease is not contagious, and cannot be imported, allege that it is generated among us like common bilious fevers, and from a similar source. Hence it follows, that if the fever breaks out, as it constantly does, in the neighbourhood of a ship that is just arrived from an infected port, or in the place where that ship is landing her cargo, or in the place where some of her passengers are lodged, we are not to infer that the disease has been imported in that ship, for it is not importable. We have only to search for some puddle or heap of manure that lies in sight of the ship, which is to be taken for the legitimate cause of the disease. Now, since there can be no difficulty in finding such objects or causes in every port, it will readily be perceived that the dispute may be perpetual.

AN OBSERVER.

V.

CASE *of* ENTERITIS, *accompanied with a* PRETER-NATURAL FORMATION *of the Ileum. Communicated to the Editors of the American Medical and Philosophical Register, by* JOHN W. FRANCIS, *of New-York.*

THE writer of the following paper was an eye-witness to most of the facts which he relates. They are taken from memoranda made at the request of his preceptor, Dr. David Hosack, in whose practice the case occurred. Should the editors of the Register consider it deserving a place in their journal, they are at liberty to insert it.

On the morning of December the 22d, 1809, Dr. Hosack was requested to visit a Captain D——, aged about thirty-five; of a slender habit of body; who was represented to be in an alarming condition. At the first view of the patient, it was perceived that he was afflicted with all the symptoms characteristic of enteritis, accompanied with those of ileus; viz. an acute and constant pain in the whole abdominal region, particularly about the umbilicus: the abdomen greatly distended, hard, and extremely sensible to the slightest touch, or whenever he attempted to move: vomiting of stercoraceous matter, and constipated state of the bowels: pulse small, tense, and frequent; respiration hurried and anxious; countenance livid; heat of the body increased somewhat beyond its natural temperature; and excessive thirst. These symptoms were attended with a great prostration of strength, and an extreme degree of restlessness.

Upon inquiring into the history of his complaint, it appeared that he had been first attacked while at the theatre, on Wednesday evening, the 20th. On the morning of the day following he was visited by an eminent physician, who directed an antispasmodic mixture, the symptoms of his disease being, at that time, but slight. Deriving no relief from the medicine prescribed, Dr. Hosack was called upon on Friday morning, the 22d, between the hours of eight and nine, when he found him labouring under all the symptoms above described.

From the best information that could be obtained, it was rendered highly probable, that the exciting cause of his complaint was *cold.* He had repeatedly been subjected to attacks of this kind, though less violent than the

present, for several years past; at which times he was relieved by the ordinary method of treatment.

Immediate recourse was now had to the lancet, and he lost blood to the amount of eighteen ounces. A cathartic, composed of the pulv. jalap. and sub-muriate of quicksilver, each ten grains, was directed to be given, which was rejected in about an hour after he had taken it; and a similar one repeated with the same result. Blisters were applied near the umbilicus; fomentations of vinegar and water over the whole abdomen; and enemata of the oleum ricini and tinct. assafœtid. were administered. These were partly discharged by vomiting; which afforded abundant proof, that an inverted action of the whole intestinal canal had already taken place. In the afternoon, the several applications to his surface were repeated; and during the remainder of the day he took, in divided doses, no less than two scruples of the sub-muriate of quicksilver, combined with opium and camphor; which, however, were rejected by vomiting shortly after they were taken. The enemata, rendered more active, were again given, but with no advantage. At this time Dr. Miller visited the patient, in conjunction with Dr. Post and Dr. Hosack. They united in recommending a continuance of the same mode of treatment that had been pursued. In this condition he passed the night; the constipation of the bowels obstinately resisting every means used to obtain an evacuation.

On the morning of the 23d, the sub-muriate of quicksilver, combined with opium, was again directed, in doses of fifteen grains every two hours. The warm bath was

at the same time employed. It produced a temporary mitigation of his symptoms; but left him still more enfeebled. His fate, which for some time had been probable, now became almost certain. The vomiting, which, within the first thirty hours from the commencement of his disease, had become stercoraceous, and which had continued, with but little intermission, to the present time, was now renewed. Attempts were made to allay it by the free use of the tincture of opium, and other remedies usually indicated under similar circumstances. The effect was an aggravation of all the symptoms. At 10 o'clock, P. M. his dissolution was momentarily expected, his pulse scarcely perceptible, and his extremities cold.

He expired on Sunday morning, the 24th, at 6 o'clock, the vomiting having been incessant until about twenty minutes before his death.

MORBID APPEARANCES ON DISSECTION.

At 2 o'clock in the afternoon, the body was examined in the presence of the attending physicians, and several other professional characters. The abdomen was tense and greatly distended: upon making a longitudinal incision into it, a considerable quantity of serous fluid issued out. Having completed the division, the intestines were found in a highly inflamed state, and of a dark red colour.: the peritoneum lining the abdomen was also much inflamed, and covered with coagulable lymph. A remarkable deviation from the ordinary structure of the parts was now discovered to exist: a portion of intestine, attaching itself to the umbilicus, formed a union between it and a part of the intestinal canal. Upon further exa-

mination, this appendix was observed to be a *diverticulum* from the ileum. At the place of its union with the ileum it was enlarged and inflamed, in common with the upper portion of the small intestines; the remaining part was of a natural colour, and so intimately connected by its blind extremity at the umbilicus, as to leave little doubt of its being an original mal-formation. The ileum, above this appendix, was very much inflated, extremely vascular, and in size, equal to the transverse colon; while the lower portion was greatly contracted, and twisted round the diverticulum; and in this manner had been the means at least of aggravating, if not of inducing the inflammation and its consequences in this particular part of the intestinal canal. This portion of the ileum was of a dark, livid appearance, and had lost its natural tenacity. The great intestines were found completely emptied of their contents, and preter-naturally contracted in their diameters throughout their course.

The omentum, transverse colon, and stomach, were, at first, altogether concealed by the distended state of the small intestines; and found in close contact with the diaphragm. The omentum was irregularly drawn together. No unnatural appearance of the transverse colon was remarked. The stomach lay in a circumscribed situation, was not more than two inches in width, and contracted in the same proportion throughout its whole extent. It was entirely empty; upon a minute inspection, no discolouration or affection of its coats was seen.

From the annexed draught, by the ingenious Mr. Inderwick, a student of medicine of this city, the peculiar structure of the parts affected will be more accurately understood.

A. The manner in which the diverticulum was connected to the umbilicus.
B. The diverticulum.
C. The manner of its union with the ileum.
D. The upper portion of the ileum, enlarged and extremely vascular.
E. The lower portion, contracted and in a state of approaching sphacelus.

JOHN W. FRANCIS.

New-York, June 4th, 1810.

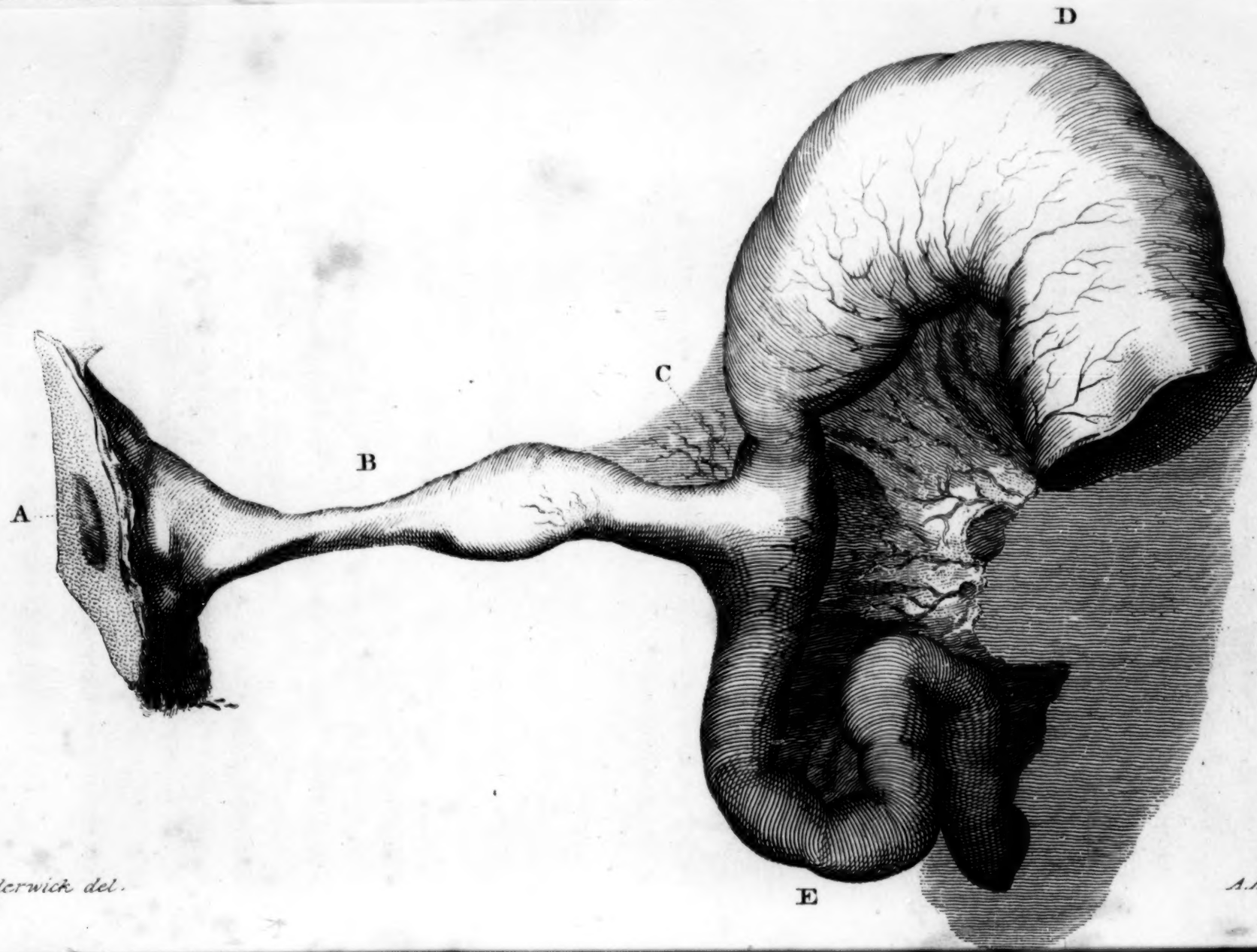
VI.

Analysis of BALLSTON WATER. *Communicated in a Letter to Dr.* DAVID HOSACK, *from* ROBERT L. LIVINGSTON, *Esquire, during his late residence in France.*

TOURS, September 10, 1807.

DEAR SIR,

HAVING received some benefit from the mineral waters of Ballston, of late years frequented by invalids from every part of the continent, I determined to have them analysed, and accordingly had two dozen bottles hermetically sealed, which arrived here in a perfect state of preservation. Presuming that a knowledge of the component parts of those waters may be of public benefit, I have the honour to transmit herewith the analysis of them, by one of the most celebrated chemists; and to request that you will have the goodness to make it public.



Inderwick del.

A. Anderson Sc.

On my arrival at Paris, I drank two bottles of the water, and found no difference in the taste or effect, than that experienced last year at Ballston, from which I conclude that the component parts suffer little or no alteration from transportation.

Having this moment heard of a safe opportunity to New-York, I have only time to assure you of my esteem and respect.

Your most obedient servant,

ROBERT L. LIVINGSTON.

"*L'Analyse de l'eau que M. L. m'a donné à analiser, contenant par bouteille de 25 onces.*

SAVOIR

1. Acide carbonique (air fixe) . . . . 3 fois son volume.
2. Muriate de soude (sel marin) . . . . 31 grains.
3. Carbonate de chaux sursaturé . . . . 22 grains.
4. Muriate de magnesie (sel marin à base de magnesie) . . . . . 12 1-2 grains.
5. Muriate de chaux (sel marin à base de chaux) 5 grains.
6. Carbonate de fer . . . . . 4 grains.

" Aucune eau minerale de notre continent n'est aussi riche en substances salines de ce genre ; celle de Vichy, qui a une grande réputation, ne contient par bouteille qu'un dixième de grains de carbonate de fer tandique celle dont nous donnons l'analyse en contient 4 grains. C'est au fer que ces espèces d'eaux acidulées doivent leur qualités toniques et désobstruantes.

" A la dose de deux bouteilles l'eau d'Amerique doit être un leger purgatif qui convient dans tous les cas, ou il est nécéssaire d'évacuer la bile, et donner du ton au

Accordingly, in *intermittent* fever, *dropsy*, *dyspepsia*; in *hypocondriasis* and *hysteria*, connected with or proceeding from debility of the digestive organs; in *paralysis*, *chronic rheumatism*, *gout* in its chronic state, *chlorosis*, *fluor albus*; in *suppression of the menses* when arising from weakness, in *worms*, and in other diseases of debility, whether of the intestinal canal, or of the whole system, the Ballston waters have been long and justly celebrated. On the other hand, in a plethoric state of the system, as in *pregnancy*, in *consumption of the lungs*, *inflammation of the liver*, *acute rheumatism*, *dysentery*, and other diseases of an *inflammatory* nature, in which they are often times resorted to, they invariably do injury. We may, perhaps, except from this remark, a *species of consumption* which arises in females about the time of puberty, in which, from want of energy in the system, menstruation does not take place at the period in which it usually appears; dyspepsia ensues, followed with general irritation of the nervous system, pain in the breast, cough, sometimes hæmorrhage from the lungs, and ultimately terminating in confirmed consumption. These consequences have frequently been prevented by a course of iron, and vegetable tonics, aided by generous diet, and exercise, especially riding on horseback. Under similar circumstances, I have no doubt that the Ballston waters may be serviceable in this species of phthisis in its incipient state; but they should never be employed in diseases of this nature, without the advice of a physician.

2. From the *saline impregnation* of these waters, and their operation upon the urinary organs, as well as by perspiration, they are indicated in diseases of the *kidneys* and *bladder*, in *gout*, *chronic rheumatism*, and *eruptions* upon

the skin, all which diseases are most frequently produced by, or connected with a morbid condition of the fluids, and an impaired state of the secretions.* In these complaints I have repeatedly prescribed these waters with the best effects.

But according to the foregoing analysis, they contain an ingredient of great value, besides those already enumerated; I mean the *muriate of lime.* It appears upon the authority of Dr. Beddoes,† Dr. R. Pearson,‡ Dr. Wood,§ and Dr. Schraud of Vienna,¶ that this substance has lately been discovered to be a remedy for *scrophula*, which hitherto has been the opprobrium of our profession. It is true, cases have been recorded by Russell and others, of the cure of this disorder by the use of sea water. But as it has been ascertained by chemists,** that the muriate of lime enters into the composition of sea water, it is very possible that much of the efficacy of the latter in that disease, may be derived from the muriate of lime, which it has been found to contain. But as scrophula is usually attended with a general debility of the system, as well as a morbid condition of the fluids, the Ballston waters will propably be found peculiarly serviceable, inasmuch as they possess the means of invigorating the system, at the same time that they contain the antidote to the peculiar virus of that disease.

* See Wilson on Dyspepsia, Gravel, &c. See also Treatise on Gravel and Gout.

† Treatise on the Consumption, Digitalis, and Scrophula.

‡ London Medical Review, vol. 3.

§ Edinburgh Medical Journal, vol. 1.

¶ Treatise de Febribus.

** See Lavoisier, Jacquin, Thompson, and Murray.

But to obtain the benefits of the Ballston waters in any of the diseases which have been noticed, it is necessary that in the use of them, as it regards the time of taking them, the quantity taken, the stage of the disease, and other circumstances which must govern their exhibition, the directions of the physician are indispensably necessary. As well might the patient make use of any other article of the materia medica without medical advice, as drink these waters in the manner in which they are usually taken. It is but a short time since, a very valuable life was destroyed by the imprudent use of them, during a state of pregnancy. A few days ago I was consulted by two gentlemen who had left the springs much worse than they had gone to them. The one laboured under dyspepsia, attended with habitual costiveness: neglecting to relieve his bowels, he commenced the use of the waters; the consequences were, an aggravation of his disease, followed with fever, acute pain in the head, and other symptoms of general excitement. The other person referred to, had come from Virginia, on account of an obstinate chronic diarrhœa, attended with great debility, and general emaciation. Without advice, he immediately began to drink the waters to the quantity of several quarts daily. The consequences may readily be imagined; an increase of his disease, and a degree of debility from which he with difficulty recovered.

If, sir, these remarks should contain any thing deserving attention, they are at your disposal. At the same time permit me to refer you, for further information on this subject, to the Medical Repository, the Medical and

Philosophical Journal, and to the Dissertation lately published by Dr. Valentine Seaman.

I am, sir, your humble servant,

DAVID HOSACK.

Mr. JOHN COOK.

VIII.

A CASE *of* CATALEPSY. *Communicated to Dr.* DAVID HOSACK, *by Doctor* JOHN STEARNS, *of Waterford, State of New-York.*

THE occurrence of catalepsy is so unfrequent, that some writers of celebrity have even denied its existence. A detail of the symptoms and treatment of the following case, may therefore shed some light on this branch of medical science. The subject is a boy of eleven years of age, whose constitutional health, strength, and activity, have sustained no injury from the repeated paroxysms of this complaint. He has ever enjoyed all the qualities common to boys of that age.

In the winter of the year 1804, he was first observed by his preceptor to pause in reading his lesson; this was then ascribed to a voluntary dumbness; and it was not till the recurrence of several paroxysms, that it was suspected to be the effect of disease. A few days after its first appearance in the school, it was discovered in the family by his mother, when one of his brothers, a school fellow, remarked that "Philo is dumb again." This induced her to inquire into the particulars, of which she soon afterwards gave me full information. As she expected

no relief from medical aid, I made no prescription, but occasionally called to learn the progress of the complaint. In the paroxysm I could observe no unusual variation in his countenance, except an involuntary unmeaning stare, and a trifling dilatation of the pupil. His muscles were not generally in a state of rigid contraction, but relaxed and susceptible of motion, although they did not possess the power to move. He remained perfectly motionless, and during the continuance of the fit, retained the posture he had assumed at its accession. To this observation there is one remarkable exception. If he was walking when attacked, he never stopped, but continued to pursue the same direct course until the fit ceased, unles prevented by some intervening obstruction. The voluntary muscles, in this instance, were in full exercise, while the power of volition was entirely suspended. The time passed in the paroxysm was to him totally annihilated; he connected the last idea he had before the accession of the fit with the first one that occurred after its cessation, and resumed the subject he was pursuing, as if nothing had intervened. If he was reading, or relating a story, or pursuing any amusement or employment of any kind, he was sensible of no interruption.

The paroxysms occurred irregularly ten times in twenty-four hours, and never exceeded three minutes in duration. His pulse has ever been natural, and no morbid action has disturbed any of the functions of his system.

After the disease had continued in this manner four years, I prescribed the nitrate of silver, on the presumption that it was nearly allied to epilepsy, and required a similar treatment. This remedy was faithfully adminis-

tered three months without producing any alleviation of the complaint. I then substituted the acetite of lead, the use of which was continued six weeks before any sensible effects were produced. After this period he was never known to have any more of the fits. They did not gradually disappear, but suddenly ceased.

A few days after the final cessation of the complaint, he was affected with violent pains in his knees, and in the muscles of his thighs; they were suddenly transferred from these parts to his abdomen, where they were so violent as to require some medical aid, before he could obtain relief. Since that time, he has remained in pefect health, and entirely free from his original complaint.

Waterford, June 12th, 1810.

IX.

A Review *of the* Doctrine of Diseases, *taught at present by* Benjamin Rush, *M. D. Professor of the Institutes and Practice of Medicine, &c. in the University of Pennsylvania.**

In looking over the doctrine of diseases, taught at present by Dr. Rush, of Philadelphia, we find it differs in

* The author of this Review of the Doctrine of Professor Rush, is an eminent physician of a neighbouring city, whom the editors are happy to include in the number of their correspondents. From the high standing of Dr. Rush, the extensive circulation of his writings, and the consequent influence his opinions must have upon

several particulars from that of the late Dr. John Brown, of Edinburgh, though he is evidently indebted for a considerable portion of the materials of which it is composed, to the writings of that eccentric teacher.

Dr. Brown divided all diseases into two classes, one of which he called "Sthenic" and the other "Asthenic." Under the first of these he arranged all the diseases which exhibit symptoms of stronger excitement and power than appear in a state of health. Under the second class he placed all those, in which the excitement or power of the organs of sense and motion was lower or weaker than in a state of health. The diseases belonging to each of these classes he presumed to be derived from diametrically opposite causes, and consequently to require an opposite set of remedies. Dr. Rush, on the contrary, confines the whole catalogue of diseases which "flesh is heir to" to *one single class*, and calls the whole assemblage "A UNIT." Every form or variety of disease, he contends, is the same in kind, only differing in degree, and that every form or variety consists of ir-

the medical profession in the United States, it becomes a question of great moment, how far they are founded upon a rigid induction of facts, without which, theories in medicine are at least useless, if not pernicious in their consequences. So fascinating, too, are the language and manner in which Dr. Rush delivers his opinions, whether from the professor's chair, or in the pages of his writings, that his doctrines find a ready reception with the unwary mind of youth. On this account, the theories which he advances cannot be examined with too much freedom. Such also, we believe, to be the Doctor's love of truth, that he himself must be pleased with a candid investigation of the doctrines which he has for many years so strenuously taught. Sensible of the importance of this inquiry, we have given a place in this work, to the review which follows. ED.

regular action, and that this irregular action in its turn is the proximate cause of every form or modification of disease. He further adds, that all the varieties of disease are owing to the difference in the state of predisposition, and in the difference in the force of the exciting or acting causes.—Hence, if it be asked what disease is gout, and what is its proximate cause, the answer is, gout is an arthritic state of fever, and its proximate cause is "irregular action." The same answer serves for apoplexy, cholera, diarrhœa, colic, fever, asthma, pleurisy, scurvy, jaundice, dropsy, epilepsy, and mania. They are all irregular action, differing only in degree, and consequently, a unit.

Rejecting that part of the Brunonian doctrine, which teaches, that debility carried to a certain degree is disease, whether occasioned by the abstraction of natural and customary stimuli, or by their excessive action, exhausting or expending excitability, which in the former case Brown called direct debility, and in the latter indirect debility, and which he supposed required the application of stimuli of very different powers to restore the deficient excitement to a healthy grade, Dr. Rush has adopted the opinion delivered by the Analytical Reviewers in their fourth volume, and considers debility whether induced by the abstraction of stimuli, or by the excess of their action, to be only the predisposing cause of disease. In both cases he pronounces the debility, which gives the predisposition to disease, to be occasioned either by causes which abstract the stimuli necessary to support the healthy action of the several functions of the body, (and the debility from these causes he calls the debility of abstraction,) or by such preter-natural or unusual sti-

muli, as after first elevating the excitement of the system above its healthy grade, and thereby wasting part of its strength, afterwards reduces it down to that state of debility, which he calls the debility of action. And he pronounces the debility to be the same, whether brought on by the former or the latter causes; for the effect is an increase and accumulation of excitability, or an increased disposition to motion in both cases, and disease or irregular action the necessary consequence of the action of stimuli, upon the excitability thus generated and accumulated.

With these alterations and additions to the Brunonian system, Dr. Rush proceeds to deliver a summary of the doctrine which he teaches at present, of which the following is an abstract: viz.

As in health, there exists a constant and just proportion between the degrees of excitement and excitability and the force of stimuli, so in a predisposition to disease, (which consists in debility and undue proportion of excitability, or preter-natural disposition to motion) the ratio between the force of stimuli, excitement, and excitability is destroyed, in consequence of which, the stimuli act with a force which produces "irregular action." And when the excitability is comparatively more abundant in the blood-vessels than in the other portions of the system, which, from their being distributed in numerous and minute branches to every part of the surface of the body, both internal and external, is frequently the case, morbid, or irregular and convulsive motion is produced in hem by the stimulating action of the circulating blood; or the equilibrium of the system being destroyed by the

sudden abstraction of excitement, in consequence of the suspension of the natural and customary stimuli, the blood becomes unequally distributed, and by acting with an increase of quantity and force in parts not accustomed to either, becomes an irritant to the muscular fibres of the blood-vessels, and thus an exciting cause of fever. When the excitability is redundant, and the natural or customary stimuli continue to act, the disease exhibits symptoms which indicate too much strength or activity, but more predominant in that portion of the system in which it has become comparatively more abundant than in the other portions of the same: and when it is deficient, the symptoms indicate too little strength and activity in the system, and particularly in that portion of it in which the excitability is comparatively more defective than in the other portions; and when either the quantity of the excitability, or the force of the stimuli are in an undue proportion to each other, different degrees of excitement or power of action is the consequence.

Dr. Rush maintains, that all the remote or predisposing causes of disease are debilitating, and that all the occasional or exciting causes are stimulating.

Among the remote or predisposing causes, he enumerates, with the generality of systematic writers, cold, immoderate evacuations, the depressing passions of fear, grief, &c. all of which induce debility or a diminution of healthful power, by the abstraction of customary and salutary stimuli, in consequence of which the excitability accumulates and becomes redundant.

Among the stimulants which, when applied to the

body debilitated by the remote causes, produce disease, he includes sensible heat, marsh and human miasmata, contagions, and poisons of all kinds, intemperance in eating and drinking, sudden emotions of the mind, bruises and burns, all of which, he says, act by their stimulating power only in the production of disease; and though he admits that fever is frequently the consequence of the debilitating effects of the remote causes, without the application of any apparent stimulus, he says the circulating blood is sufficient in such a state of excitability to stimulate the arteries, and produce irregular action.

If marsh miasmata produce fever, by a direct stimulating action upon the muscular fibres of the arteries, (the existence of which is rendered questionable by the experiments of the celebrated Haller, and by those of Kirkland, as he assures us in his Medical Surgery,) as maintained by Dr. Rush, in opposition to the best and most approved writers on pathology; and if they act like the stimulus of heat, and other direct stimuli, not only in increasing power and motion, but in modifying the forms of disease, according as they meet with a greater or less portion of excitability which this doctrine teaches, why do they not sometimes produce measles, scarlatina, small-pox, gout, and hydrophobia, as well as a fever of type?

If marsh miasmata acted, as direct stimuli are known from experience to act, an increase of power, or at least of action, would be evident in some part of the system, the instant they came in contact with it; but this is not the case, for persons who are exposed or subjected to the immediate contact or action of marsh miasmata, in situations and under circumstances most favourable for them

to produce their effects, perceive no sensible effect after such exposure for some days. A period always intervenes different on different occasions, but always of a sufficient length after having been subjected to their influence before any effect is perceived or felt by the person who has been thus exposed. To prove to the satisfaction of every one qualified to discern the relation between cause and effect, that they do not act upon the arteries by a directly stimulating power in the production of fever, and even after disorder does begin to occur, after they have been received into the system, the symptoms by no means at first indicate the action of stimuli, upon the fibres of the arteries, for they are always defective in power and activity for some time after the paroxysm commences, though they afterwards recover greater apparent power and activity, as well as action, in the course of the paroxysm. If miasmata acted by a directly stimulating power, an increase of power and activity would appear immediately, and all the functions of the body would show signs of vigour, as they do upon receiving wine or other active stimuli into the stomach; or if they acted with the force and celerity of the electric fluid, a prostration of strength and suspension of sensibility would be the immediate consequence. There ought to be an immediate or gradual augmentation of healthy excitement or irregular action the instant they entered the system.

If the theory of disease taught by this venerable and ingenious physician were true, the cure of every form or variety of disease would require the employment of stimulating remedies, only varied in degree of force or power, and proportioned to the quantity of excitability or disposition to motion in the several portions of the system;

because, in every form of disease, depending on debility, connected with too much excitability, they would expend the surplus of excitability, and in those whose symptoms indicate too low excitement, or defect of power, they would increase the excitement. But if every form or variety of disease depends upon different degrees of excitement, as taught by Brown, and on different degrees of irregular action, as taught by Dr. Rush, and the different degrees of force in the irregular action, depend upon a greater or less disproportion between the quantity of the existing excitability and the force of the stimuli applied, or in action, and if the excitability becomes more abundant in proportion to abstraction of natural and customary stimuli, either Dr. Rush's theories or practice must be wrong; for blood-letting and other debilitating remedies which he prescribes for reducing too strong action of the blood-vessels, would, if his theory were true, add to the cause on which the irregular action or convulsion of the arteries depends, by abstracting stimuli, and thereby permitting the excitability to accumulate; and instead of curing, would only change the disease from too strong, to too weak action.

When the doctrine of morbific matter was in fashion, and it was taught that the proximate cause of fever was a fermentation or ebullition of the blood, to concoct and ripen the morbific matter, and fit it for expulsion, by some of the emunctories or secretory vessels, Baglivi charged the teachers of that doctrine with inconsistency and want of judgment, for advising blood-letting to reduce the heat of the body, the supposed consequence of that fermentation or ebullition of the blood; because if the doctrine was true, the heat and ebullition might be

more speedily and certainly reduced by the application of cold, and drinking cold water, than by drawing off part of the blood, so long as the cause of its heat remained in operation. To illustrate the inconsistency and inefficacy of such practice, he asks the advocates of that doctrine, whether, if they wanted to diminish the heat of water boiling in a pot, they would expect to succeed by unlading part of it, or by adding cold water to it till they could remove or extinguish the fuel by which its heat was supported.

A similar question might be proposed to those who expect to cure fever by abstracting the exciting cause, (the stimulus,) so long as the proximate and predisposing causes not only remain, but are augmented by such treatment.

But the creed that excitability accumulates in direct proportion to the degree of debility, induced by the abstraction of customary stimuli, whether natural or artificial, is not only hypothetical, but is contradicted by facts that are familiar to every practical physician. In the last stage of typhus fever, for instance, and in numerous cases from its very commencement, recent examples of which have occurred in different parts of the eastern states, when debility is very great, as well as in the asthma and colic, instead of a proportionable increase of excitability, the deficiency of excitability is so great as to require the most powerful and penetrating stimuli to arrest the ebbing tide of life ; whereas, in all cases of fever accompanied with, or depending on, local and acute inflammation, the mildest stimuli increase the action of the system, and raise the excitement. But if the powers of

life become impaired or diminished in consequence of fasting, the abstraction of animal heat from exposure to the cold, or in consequence of immoderate evacuations, or from fear, grief, &c. can it be said, with any degree of probability, that the vital principle, or the excitability has gone on to accumulate in the system under such circumstances, and that, because it has not been expended by the action of stimuli, it must be redundant ?—We might with equal reason expect the production of an effect without a cause. It would be the height of credulity to expect that the vital principle or excitability, the generation of which requires the function of health, should be generated and accumulated in greater abundance by a process of disease. The probability is much greater, that the torpor and debility which precede disease, would in a great measure prevent any additional generation and accumulation of excitability.

If there is but one disease, as Dr. Rush teaches, because every form or variety of disease is accompanied with irregular action, we might say, by the same logic, that there is but one medicine, or that medicine is " a unit," because every form or variety of medicine, acts upon the excitability or living principle ; and that there is but one animal, because every animal is a living creature, or at least an automaton or self-moving machine, though the figure, character, habits, and actions of some kinds are entirely different from those of every other kind ; some being fixed like weeds, to perish where they grow, some to grovel in the dust, while others spread their light wings, and mount into the " viewless air ;" while others, a watery race, " cleave ocean's briny waves."

A doctrine which has nothing but conjecture for its support, instead of being a suitable guide to the medical student, must necessarily perplex and mislead him ; for it would be impossible in the generality of cases, to discover the relative proportion between the excitability in the system, and the force of the stimuli necessary to be applied in order to give out the healthy excitement, or to accommodate the exciting powers to the state of excitability ; for who will presume to say, that he has the sagacity to discern the relative proportion between the exciting powers, and the quantity or state of the excitability present in the different varieties of fever, or the relative proportions between the excitement or the power of action which obtains in phlegmon and erysipelas, tetanus and phrensy, gout and palsy, pleurisy and dropsy, apoplexy and asphyxia, rheumatism and scurvy, dysentery and diarrhœa, enteritis and colic, or even to distinguish the two last mentioned diseases from each other, or the asthma from the croup in all cases, by merely adverting to the state or quantity of the excitability existing in the system, or by comparing the strength or weakness of irregular action in the different portions of the system with the standard of health ?

In some cases of peripneumony the disease cannot be distinguished from asthma, by the state of the pulse and respiration, though they depend upon proximate causes that are essentially different ; other marks of distinction must therefore be inquired for, that the one may not be confounded with, or mistaken for, the other ; but these marks of distinction are not to be discovered by measuring or weighing the excitability or the degree of excitement, by an imaginary scale or rule of conjecture, and

it is of primary consequence to know the circumstance which occasions the one to differ in its nature from the other, as the remedies beneficial in asthma, would probably be fatal in peripneumony.

An attempt, therefore, to banish nosology (derived from repeated and accurate investigations of the nature and causes of diseases) from medical studies, and to substitute in its place, vague and uncertain rules, is certainly a very extraordinary proceeding in a physician and teacher of Doctor Rush's distinguished abilities and acquirements. For though nosology will not teach us how to cure diseases, it will assist us very much in acquiring the knowledge that will. It is the province of nosology to collect and arrange all diseases of the same nature, that depend upon the same proximate cause, and which experience teaches require similar remedies, under the same class, order, genus, and species, and to mark the characters or signs by which the diseases of different classes are distinguished from those of every other. By the rules of nosology, the student very soon learns to distinguish diseases of a different nature, and which consequently require different kinds of remedies, from each other; whereas, if he adopts the rules of the Brunonian system, as modified and explained by Dr. Rush, he will, till he has by long practice and attentive observation acquired a portion of the doctor's sagacity, find himself perpetually at a loss in accommodating his practice to those rules; for no man, except by chance, can direct his remedies with unerring aim, who takes uncertain rules for his guide.

(To be concluded in our next.)

AMERICAN BIOGRAPHY.

MEMOIR OF THE LATE DOCTOR JOHN BARD.

With an Engraving, from an Original Painting.

We have great pleasure in presenting that class of our readers, whose declining years have lessened the number of their enjoyments, with an appropriate gratification; the portrait of a fellow-citizen, whom many of the m will recollect with unfeigned affection, and all who knew him with that respect and esteem which useful talents, exercised with urbanity, benevol ence, and integrity, will always command.

If the life of Dr. John Bard furnishes few anecdotes that amuse or surprise, it affords at least one useful lesson; that persevering industry and inflexible integrity, will surmount great obstacles, and conduct a man to honourable distinction and envied eminence, from under the pressure of great and early discouragements. His father, who was a refugee from the tyranny of Lewis the 14th, at first to London, was sent thence by an uncle to this country, on a mercantile speculation but ill suited to his genius, and consequently unsuccessful. He therefore abandoned merchandize, and retired to Burlington, in New-Jersey, where having been appointed a judge of the supreme court, and one of the governor's council, he died at an early age, leaving his widow, with a very moderate income, to support and educate a young family of seven children, to which she devoted herself with so much

good sense and pious zeal, that she lived to see them all respectably established.

JOHN, her third son, was sent to Philadelphia, and introduced, for it could only be called an introduction, to the rudiments of a polite and classical education, under the best masters then to be procured. In one circumstance he was fortunate; his Latin teacher was a Scotch gentleman, by the name of Annan, who, at the same time that his contracted circumstances compelled him to teach a grammar school for his support, by his learning and politeness commanded the respect, and enjoyed the society of the governor and principal gentlemen of that city. But Doctor Bard possessed the advantages of this situation only for a very few years, and at the age of fourteen or fifteen was, according to the custom of that day, bound apprentice to Mr. Kearsly, an English surgeon, of good talents, but of so unhappy a temper, that his presence banished cheerfulness from his family. He treated his pupils with great rigour, and subjected them to the most menial employments; to which, Doctor Bard has been often heard to say, he would never have submitted, but from the apprehension of giving pain to his excellent mother, and the encouragement he received from the kindness of her particular friend, Mrs. Kearsly, of whom he always spoke in terms of the warmest gratitude, affection and respect. Under such circumstances, he persevered to the end of seven tedious years, stealing his hours of study from sleep, after the family had retired to rest, and before they arose from their beds.

Before he was released from this thraldom, he became acquainted with Doctor Franklin, of kindred mind, and

no unequal fortune; whose friendship and cheerfulness brightened his leisure hours, whose example roused, and whose indefatigable industry stimulated his exertions and perseverance.

This early intimacy was ripened by a similarity of disposition into a lasting friendship, which ended only with their lives, and which Dr. Franklin reminded him in a letter, not long before his death, "had never been obscured by the slightest shade."

He at first settled in his profession in Philadelphia, and as soon as he thought himself justified by his prospect in business, married a niece of Mrs. Kearsly, like himself the descendant of a refugee, and almost equally destitute of the gifts of fortune. But after practising in that city about five or six years, he was induced, by the death of Doctor Dubois and Doctor Dupie, who died in New-York of the yellow fever about the year 1742 or 3, to remove to that city; where, by the urbanity of his manners, his professional talents, and the charms of his conversation, which was enlivened by a constant flow of cheerfulness, enriched by sound sense, and adorned by a very considerable fund of anecdote, he so effectually recommended himself to the notice and friendship of the most respectable families, that he was almost immediately introduced into a valuable scene of business, and very soon arrived at the first rank in his profession. Nor did he lose their friendship or yield his professional eminence through a long life of more than fourscore years.

From the confined circumstances of his education, Doctor Bard was neither classically nor professionally a learn-

ed man; but he possessed a lively fancy, a sound judgment, and a correct taste. He read with great delight the best authors, particularly the poets of his own language; and whatever he read and admired, he made so completely his own, that he could recal it almost at pleasure to his memory, and would frequently surprise and delight his friends by long and appropriate quotations from authors he had not seen for very many years. In his profession he read all the best authors of his day; but his studies were rather select than general. Sydenham and Huxham were his favourites. He formed himself upon their plan, and was so familiar with their histories of diseases, and their rules of practice, that he applied them with great ease and readiness, and acquired from them a correct and happy talent in discriminating diseases, and such sound principles of practice, as rendered his own eminently successful.

About the year 1759, the city of New-York was alarmed by the arrival of a ship from Amsterdam, freighted for the transportation of Palatines, among whom a malignant fever had broken out during the passage, and destroyed a great number. On this occasion, Doctor Bard was employed by the corporation to take proper measures to prevent the disease from spreading. The sick were quartered at a distance from the city; but notwithstanding every attention, many of the passengers perished; and although the disease was confined within the limits of the hospital, it now communicated to every nurse and assistant, Doctor Bard only escaping. He immediately drew up a memorial, in which he represented the expediency of providing a pest-house, against similar occasions, which was immediately effected by the purchase of

Bedlow's Island and the buildings upon it; the care of which, with the appointment of health officer, was given to him. He was likewise appointed surgeon and agent for the sick and wounded seamen of the British navy at New-York; and retained both these stations until, on retiring into the country, he resigned them.

At the bed side Doctor Bard was distinguished by an affectionate attention to the situation and feelings of his patients; a careful examination and correct discrimination of their diseases; and a diligent application of appropriate remedies; so that even when unsuccessful, he never had occasion to reproach himself with neglect, and seldom failed to obtain the gratitude and esteem of their friends.

In his intercourse with his fellow practitioners, he was to all candid and sincere; but between him and his particular friends, among whom he numbered Doctor Peter Middleton and Doctor John Jones, both men of distinguished reputation, there prevailed an unbounded liberality and confidence, which, whenever it exists between men of eminence in the profession of medicine, must redound greatly to the safety and happiness of their patients.

Convinced from his early youth of the great truths of natural and revealed religion, Doctor Bard never spoke on these subjects but with the utmost reverence. He would frequently take occasion from the wonders of creation and the beauties of nature, of which he was an enthusiastic admirer, to expatiate on the infinite wisdom and goodness of the Deity; and on these occasions the feelings of his heart would glow in his language and

glisten in his eye; seldom failing to warm his hearers into a kindred enthusiasm. At his own peculiar lot, which was very far from what the world calls prosperous, he was never heard to murmur or despond; but resigning himself cheerfully to the dispensations of Providence, and pouring forth praises and gratitude for the blessings he enjoyed, he rose from every disappointment with renovated hope and more vigorous exertion.

Captivated by the pleasures and employments of a country life, Doctor Bard, in the year 1778, retired to an estate he possessed in Dutchess county. But the events of the American revolution having greatly injured his fortune, he again returned to New-York, at the peace of 1783, and was received with great satisfaction by most of his old friends who had remained in town, or who returned with him; and although now far advanced in life, a good constitution and an active mind enabled him to discharge the duties of his profession with ease to himself, and much to the satisfaction of his patients.

On the establishment of the Medical Society of New-York, in the year 1788, he was unanimously chosen their president; and in the year 1795, gave an eminent instance of his discernment and knowledge of diseases, by pointing out, in an address to that body, the existence of the yellow fever which then appeared in that city, and which he had not seen for forty years. On this occasion he met with much opposition and some obloquy: but he persisted in his remonstrances to his brethren and advice to his fellow-citizens; until conviction, too fatally earned, silenced the most obstinate of his opponents. He likewise pointed out the sudorific plan of treating that fatal

disease, which, on good grounds, is believed to have been more successful than any other that has been pursued.

The charms of his conversation were protracted to the latest period of his life ; his vivacity and cheerfulness even then enlivened all companies into which he entered, and rendered his society peculiarly agreeable to young persons of both sexes, who never left him but with expressions of admiration and esteem. When surrounded by his friends, he literally forgot all care, and would frequently beguile the time until young and old wondered how the hours had passed.

Thus he lived, admired, respected, and beloved. About a twelve month before his death, he again retired into the country from the fatigues of business. In his eighty-fourth year, after a few days of illness, the first attack of which deprived him of his recollection, and saved him from the only circumstance he dreaded in death, the pain of parting from his friends, he closed his long, useful, and honourable career.

The only writings of a professional nature, which Dr. Bard has left, besides a case of extra-uterine fœtus, published in the London Medical Observations and Inquiries,* are several papers on the nature and character of the yellow fever, and the evidences of its importation into this country. These we shall have occasion hereafter to notice.

* See vol. 2.

REVIEW.

ART. I. *A Letter to* JOHN HAYGARTH, *M. D. F. R. S. London and Edinburgh, &c. from* COLIN CHISHOLM, M. D. F. R. S. &c. author of an Essay on the Pestilential Fever; *exhibiting further evidence of the infectious nature of this fatal Distemper in Grenada, during* 1793, 4, 5, *and* 6; *and in the United States of America from* 1793 *to* 1805: *in order to correct the pernicious doctrine promulgated by Dr. Edward Miller, and other American physicians, relative to this destructive Pestilence.* 8vo. pp. 272. London, 1809.

THE name of Chisholm has been long known to the medical world, and must be familiar to all who have felt an interest in the discussion of that momentous question, the contagious or non-contagious nature of the yellow or pestilential fever. His celebrated "Essay" on this subject, which first appeared in 1795, and which was enlarged and re-published in 1801, has obtained for its author the reputation of superior genius, and great professional acquirements. Nor is his fame confined to his native country, but widely extended through this western hemisphere.

The object of Dr. Chisholm in that work, was to prove that the malignant fever, which, in his opinion, appeared first in Grenada in 1793, and afterwards spread devasta-

tion through many of the West-India islands, and some of the most flourishing commercial cities of the United States, was a disease essentially different from the bilious remitting, or, as it has improperly been termed, yellow fever of the West-Indies. That it was a disease highly contagious, generated from peculiar circumstances and causes, on board of a vessel called the Hankey, on the coast of Africa, and from thence carried to Grenada, where its baneful influence was soon felt, and always traced with certainty to its true source, the infected vessel.

The account given by Dr. Chisholm, which militated so strongly against the opinion of those who deny the contagious nature of the fever above alluded to, was soon warmly attacked by N. Webster, Esq. and the late Dr. E. H. Smith, of New-York. The latter gentleman, in an elaborate essay, published in the Medical Repository, (Vol. 1, No. 4.) attempted to show, that the whole of Dr. Chisholm's statement was partial and incorrect. In doing this, he treated the character of Dr. Chisholm with unwarrantable severity.

Among the writers who have strenuously denied the contagious nature of the malignant fever to which we allude, is Dr. Miller, resident physician of the port of New-York. In a letter addressed to governor Lewis on the subject, in 1806, he says, that he is "compelled to conclude that our malignant disease is the effect of a noxious exhalation, floating in the atmosphere; that it is *absolutely and universally non-contagious*," and which "must entirely destroy the belief of its introduction from abroad."

These publications, and others of a similar tendency, have called Dr. Chisholm into the field of replication and argument, and this work is the result of his matured experience and reflections on a subject, which, though viewed by different parties in different lights, is by all allowed to be in no small degree interesting and momentous.

We enter into an examination of the present volume, with the greater pleasure, as it appears to have been wholly overlooked by the adherents to the doctrine of the domestic origin of the yellow fever; and though our quotations will be copious, we have no doubt they will be read as an able defence against the many virulent aspersions with which the character of Dr. Chisholm has been assailed.

Dr. Chisholm asserts, in contradiction to some insinuations that found their way in the Medical Repository, that he has not relinquished the doctrines and opinions which he upheld in the essay which has been mentioned above. And he says, "when I impugn the doctrine of locality of cause, I am conscious I have some right to do so; several years residence in or near Philadelphia and New-York, having presented me with adequate opportunities of knowing the local circumstances of these cities as they relate to the production of disease." p. 7 and 8.

With respect to the origin of the disease which prevailed on board of the Hankey, and which he believes was brought in this vessel to Grenada, he thus expresses himself:

" A fever proceeding originally perhaps from the inclemency of the season, and the circumstances of the situation of the adventurers, had become, by confinement, filth, consequent impurity of air, and depression of spirits, a true jail fever, or a fever of infection, heightened to an almost pestilential violence. Infection proceeding from a source such as this, and retained and concentrated by the pertinacious preservation of the bedding and clothes of the dead, might certainly have been sufficient to produce the most dreadful effects." p. 13.

This, with respect to contagious or infectious fevers, appears to be the medical faith not only of Dr. Chisholm, but of many of the most experienced physicians of Europe and America, and according to these gentlemen, " the importation of infection gave origin, and the emanation of contagion gave wide diffusion to the malignant pestilential fever." p. 19.

The doctor then proceeds :

" If I have repeatedly seen, or known from undoubted authority, that healthy persons, visiting a certain ship, soon after became affected with a certain train of morbid symptoms, which in a few days or hours, deprived them of life, I have every reason to be satisfied that these persons received their illness and death, from some deleterious principle peculiar to the ship they visited. If, again, I have repeatedly seen or known from undoubted authority, other healthy persons approaching to within a certain distance from those diseased persons, or coming in contact with them, have soon after become affected by the same train of morbid symtoms, I am fully justified in being assured that a deleterious principle of the same nature has been received from the bodies of the last, into those of the first, producing the same effect. If, again, a ship or other vessel, on board of which any of these persons are, or have been in a diseased state, or whose clothes have been preserved on board, imbued with the effluvia proceeding from their bodies in a diseased state, proceeds to another country, and if the healthy of that country, on visiting, or having communication with this ship, become affected with the same

train of symptoms I have observed to take place in the first instance, and if from them, other healthy persons are similarly affected, I am fully supported when I express my firm conviction, that this second disaster has been produced by the introduction of the deleterious principle proceeding from the first vessel or ship. Further, if nothing locally or previously existing in the first or second country, was ever seen or known by myself, or seen or known by others of undoubted authority, to have produced such a train of morbid symptoms as was observed to arise from the operation of the principle imported into either country, in the manner stated, I possess the strongest proof that nothing local and previously existing in these countries could have been the cause of this train of morbid symptoms." p. 19, 20, 21.

The author next proceeds to show that there is undoubted authority for this opinion and belief in the writings of other respectable and experienced physicians.

He then appropriates several of the succeeding sections of the work to the demonstration of the following propositions.

Proposition 1st. "That his opinions concerning the malignant pestilential fever, as it appeared at Grenada, and the other West-India Islands, in 1793, 4, 5, and 6, are not singular." In proof of this he quotes the authority of Dr. John Stuart, Dr. John Gordon, of St. Croix, physician general of the Danish West-Indies, Dr. Dancer, of Jamaica, Mr. Brown, Dr. M'Gregor, Mr. Bruce, surgeon to 88th Regiment, Dr. Blane, Dr. Fellowes, of Gibraltar, Major Wright, and Dr. Robertson. His conclusion of this section is,

"That the importation of infection, and the subsequent diffusion of the malignant pestilential fever, by contagion, are almost universally admitted by resident physicians in the West-India Islands, and by a

great many of the more enlightened and liberal of the north American states." From p. 23 to 47.

Proposition 2d. "That this fever and the yellow remittent are not precisely the same disease."

In proof of this position, among other authorites, we find the following cited; Dr. Charlton, President of the Medical Society of New-York, who asserts that he practised physic in that city since the year 1762, and that he never saw a case of yellow fever in the course of his practice, before the year 1793, and that he always considered it as a disease of foreign origin, and not indigenous. Dr. Bard, also, who began to practise medicine in New-York, in 1766, speaks of hospital and jail fevers during the revolutionary war, in New-York, but asserts, that he never saw a case of the yellow fever till 1795, which he describes as precisely similar, says Dr. Chisholm, to the pestilential malignant fever of Grenada; he believes it to be a stranger and not a native of this country, (U. S.) and from the best information he could obtain, in every instance of accession imported from abroad. Dr. Ledyard* was ultimately of the same opinion, as we are informed on the authority of Dr. Hosack; Dr. Munson is also cited by our author, as having satisfactorily proved the origin of imported infection at New-Haven: the publications of the College of Physicians of Philadelphia on this interesting subject are next mentioned with respect, and many authorities adduced from them in favour of the doctrine of infection and contagion in malignant fevers, and the essential difference that subsists between the bilious remittent, or endemic of

* Late Health Officer of the Port of New-York.

the United States, and the malignant yellow or pestilential fever, for which we must refer our readers to the publication itself.

His 3d proposition or section, seems to be entirely devoted to prove the truth of the statement made in his preceding work, which has been referred to by us, that is, that the disease of Grenada, originated from the pestilential state of the ship Hankey, then lately arrived from the coast of Africa.

Our limits will not permit us to follow our author through the whole of these proofs, which seem more and more to strengthen and confirm him in his first opinions, and that the disease generated on board the above vessel, was of the most contagious and fatal nature; for he states, that out of seventy-five colonists, thirty-five died from the 1st of August to the 23d November, and many after a few hours illness.

His 4th proposition is to show, "that, in his letter published in a mutilated form, in the Medical Repository of New-York, and quoted by Dr. Miller, he has not relinquished the doctrine and opinions he upheld in his essay." We shall not attempt to follow our author through the whole of this section, but must regret that this interesting question of the origin of the malignant fever, has in its investigation given rise to so much of acrimony and personal sarcasm. "Reason," as has been well observed by a worthy philosopher and politician now no more, "is a cool thing—heat it, and you destroy it."

Our author observes,

"That the learned, the ingenious, and truly benevolent physicians who have reported on the habitations of the labouring poor of Chester, Manchester, Liverpool, Newcastle-upon-Tyne, and lately of Dublin, furnish the most ample illustrations of this most important fact in medical physics, that the vapour or exhalation arising from animal matter accumulated in a putrid state, and rendered stationary by the neglect of ventilation, is universally the cause of the fever of infection, the typhus, which annually diminishes the population of these cities. Their ingenious and humane exertions have most clearly manifested the remedy. Remove the accumulated putrefaction, produce perfect ventilation, decompose the matter of infection, or purify the pestiferous fomites contained in the houses or chambers of the sick, and you give health and comfort to those who have been bereft of both. The same causes probably give origin to the plague; and in the case before us, the produce of such a state of circumstances is marked with a peculiar character, by the climate in which it takes place. In cold and temperate climates we see a *simple* fever of infection, or typhus, is the consequence; within the tropics, there is superadded to the most malignant virus of typhus infection, many of the distinguishing features of the most violent yellow remittent fever, thus forming a monstrous *compound*, which hitherto has not found a place in any nosological arrangement." p. 133, 4, 5.

He closes this part of the subject with a remarkable instance of the fatal contagion acting on some individuals on the coast of Demarara and the adjacent country; and then attempts, after Dr. M'Gregor, to point out the affinity, in many striking particulars, between the true plague and yellow, or malignant pestilential fever, examining afterwards the points in which a manifest distinction has been observed.

We are next presented with an "examination of Dr. Miller's report," which has been mentioned in the course of this review. And we here find that our author differs from this gentleman in his opinions with respect to the fatal disease under consideration toto cœlo.

In answer to Dr. Miller's argument founded on the extinction of the disease by cold, which is considered by many as an insuperable objection to the doctrine of its propagation by contagion, he observes, that "had the disease been typhus, this might be an objection; but as it is admitted that 'yellow fever' is the produce of infection, in combination with a high temperature of atmosphere. If it is, and of this there can be no reasonable doubt," says he, "cold weather must have extinguished it." p. 177.

Dr. Chisholm, in contradiction to the assertion of Dr. Miller, next quotes several well attested instances from the most respectable authorities, of this malignant disease being communicated by contagion in the country, and concludes,

"That infection combined with, and peculiarly modified by a high temperature of atmosphere, constitutes its cause and its *specific character*; that assimilation of the human constitution to the tropical climate, diminishes its violence, but does not change its course, its duration, or its symptoms; that the unassimilated suffer infinitely more, and in it the course and duration of the fever are thereby cut short, in most instances, as is not unfrequently observed in the eruptive fever, excited by the specific contagion of small pox." He thinks, 'that there can be no line of distinction established between this and other contagious diseases in respect of the co-operation of predisposition of the body exposed to their contagion." p. 182, 3.

"Who does not know," says he, "that the degree of intensity of the action of variolous contagion on the human body, depends on the temperament and other predisposing qualities of the body? Who is ignorant that the same syphilitic poison which violently affects one, will exert no power over another? Can it be denied that the plague will leave some exempt, but destroy others exposed to its contagion? Innumerable have the instances been of the same persons resisting

the contagion of 'yellow fever' at one time, but fatally yielding to it at another. What can this variety be attributed to, but the predisposition being more or less adapted to the peculiar nature of the assailing contagion?" p. 183, 4.

Dr. Chisholm believes that,

"When the contagion of a pestilential disease has been once imported, its recurrence at subsequent periods may not require fresh importation. The seminium of the disease may be preserved in clothes, &c. and when the temperature of the atmosphere, habits of the inhabitants exposed to it, and other predisposing circumstances concur, then the evolution and action of its virus may with certainty take place, and become as fatal as after the original importation. Is it not then more probable," he asks, "that this happened in the United States, than that their seaports should be, maugre the utmost exertions of the executive of their government, sinks of pestilence, from causes existing in, and inseparably attached to their soil?" p. 192, 3.

Speaking of obviating the causes of this fatal disease, Dr. Chisholm says,

"I am confident the purposes of prevention might be more completely fulfilled by paying that attention to low houses of dissipation and lodging, the resorts of indigence, misery, and vice at all times; and during pestilential seasons the secure asylum of infection which, with fruitless assiduity, is now lavished on the slips, sewers, docks, and made ground." p. 196.

The doctor thus concludes.

"From the minute consideration of this most important subject, and the enlarged view of all its circumstances, there arises, if not a certainty, at least the strongest probability, that the original appearance of the malignant pestilential or 'yellow' fever proceeded from imported infection; that the subsequent diffusion arose from contagion; and that its frequent recurrence at distinct periods, may

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be accounted for in a manner perfectly satisfying to the reasonable enquirer, either by the importation of fresh infection in some instances, or in others by the evolution of the basis of that which had already devastated the cities and towns of the North American States, but whose operation had been suspended by restraining, not extinguishing causes. If this is the result of our enquiry, it follows, that whilst rational quarantine laws are fully and rigidly acted on to prevent the admission of fresh infection; to obviate that already existing, the establishment of institutions for the reception of patients under fever, which may be considered as at all suspicious, should be resorted to, and enforced with all the energy and wisdom of the government, and all the prudence, the humanity, and stimulus of personal safety, of the more opulent inhabitants of the United States. The encouragement held out by the salutary consequences of such institutions in other countries, should not be neglected, should not be contemned, nor give place to notions of security truly ideal, and which have so often been subverted by fatal experience. Let the wise measures of pevention be adopted which have been so successfully pursued in most of the cities and large towns of Great Britain and Ireland, particularly Chester, Liverpool, Manchester and Dublin, and then indeed contagion may be rendered "a bug-bear;" then indeed, "we shall lessen apprehension and distress; we shall disarm the evil of half its power, and restore the ties of kindred and of "nature." When it is further considered that houses of recovery, as they have been called, have been established with a success more than commensurate with the most sanguine hopes of the projectors in the cities and towns of this country (Great Britain) most renowned for commerce and manufactures, a still more cogent incentive will be held out to the legislators and the principal inhabitants of the cities and towns of the United States. Feelings of general philanthropy, as well as of particular respect for, and the disinterested hope of promoting the welfare of these states, so cruelly suffering under the ill-judged promulgation, and, I fear, adoption of a most pernicious theory, excite in me the wish that they may cordially relinquish all the animosity and spirit of party, and unite in the accomplishment of this great, this beneficent object, which I feel a reasonable confidence, will be productive of a permanent freedom from this most dreadful of evils." p. 213, 14, 15, 16.

We are next presented, in the appendix, with a very important letter* on this most interesting subject, from the respectable and experienced Dr. John Gordon, of St. Croix, Physician-General to the Danish West-Indies, to Dr. Haygarth. Our notice of it must be necessarily much shorter than its intrinsic merit demands, as we have already extended this review much beyond the limits we originally intended, or than perhaps the patience of our readers may readily excuse. We must therefore refer those who are curious on the subject, or who prefer the result of the long and extensive experience of an enlightened physician, to the theories and speculations of even ingenious men, to the letter itself, which we venture to predict will amply repay in instruction the time bestowed in its perusal.

He traces the first introduction of the pestilential fever into St. Croix, in September, 1793, to communication of the crew of a government vessel which arrived there with sailors from on board vessels at St. Thomas, which had arrived there from Grenada, where the fever then raged. From this vessel it was communicated to the European and American vessels in the harbour, the crews of which were previously healthy, and to the soldiers in the garrison, and continued raging until the middle of November.

He says it again appeared at various times in the hot months of 1796, 97, 98, and 99; and was principally introduced by American vessels, and those from St. Thomas, but more frequently by the former. "We were on our guard against it," continues Dr. Gordon, "and whenever the fever appeared, we traced it to its source, turned

* Dated Bath, 8th March, 1805.

the vessel that brought it out of the harbour, cut of all communication of the infected with others, and if they had been brought on shore, or the disease any where appeared, took every precaution to prevent the spreading of its malignant influence. Hence, though frequently imported, it was never general in the years above mentioned." p. 222.

"In the year 1800," continues Dr. Gordon, "a pestilential fever of exactly the same nature, but rather with increased malignity, again appeared, and was communicated very generally to all who were susceptible of its contagion, and came within the reach of its influence." p. 233.

"The source of the infection was at first difficult to be discovered, but I was fortunate enough," says the doctor, "to trace it; two men were sent in exchange from St. Thomas to our garrison. They were recruits, had gone through the fever in the hospital of St Thomas, and came directly to us from thence in a convalescent state with the clothes on them which they had worn during the time of their sickness, for no hospital dress was allowed.

"These men were so weak on landing, that they were immediately sent to the hospital without my knowledge," says Dr. Gordon, "and from them certainly originated the pestilential fever. The proofs upon which this conclusion rests are; that it first appeared among the sick in the hospital, who were not in any dangerous state on their arrival, but were all convalescent from the remittent fever and other diseases Besides, at that period, there was a great mortality in the garrison of St. Thomas, whilst in our's not a man had died for six months." "This could be accounted for in no other manner but from the operation of contagion; for the state of the atmosphere was then, and had been for some time, very favourable to the general health of the island." p. 226.

"Owing to the want of a quarantine establishment, a second contagion was introduced in October, 1800, a few months after we had, by proper means, eradicated the malignant one above mentioned." p. 228.

This was introduced, as it appears from Dr. Gordon's statement, by a vessel from St. Domingo. A few days after her arrival the doctor was called on board and found one or two Americans dangerously ill of the yellow fever, and who died. The pestilential fever soon appeared in the harbour, which, says he, "I have every reason to believe was imported by the above vessel."

Notwithstanding the representations and exertions of Dr. Gordon, on the necessity of rigid quarantines, it was not until the year 1802, that quarantine establishments were made at St. Thomas and Frederickstadt.

"General Waltenstorf, the commander in chief," says the Doctor, "upon being applied to by me for that purpose, answered with a liberality that does him credit, and would equally do so to all those who are biassed by an opinion so fatal to mankind, 'that though he 'was not convinced that the disease dreaded was infectious, but was 'inclined to opposite sentiments, yet, as he was liable to errors, he 'would take the safest side, and strictly follow the directions given 'by the quarantine commission in Copenhagen, and enforce the mea-'sures they recommended.' This he accordingly did, and I had the satisfaction afterwards to learn, that this distinguished officer, by the accounts he received from different places in the West-Indies and America, was convinced of the existence of the disease, as well as of its fatal effects." p. 231.

The disease was again introduced in one of the warm months of the year 1802, notwithstanding strict precautions, by a deception on the part of a master of a vessel. It shortly after appeared in the garrison in the harbour and raged at St. Thomas: "This," says he, "gave us another fatal warning to be on our guard against false entries and reports." p. 233.

"It is not meant as a national reflection to remark," says Dr. Gordon, "that the Americans gave us most reason to be circumspect, as it would apply to the people of every nation under similar circumstances." p. 233.

"Their trade," continues he, "is not confined to one or two islands, as that of the Europeans generally is. They touch often at almost every island in seeking for a market, though they may not enter into any port, yet they have communication with the inhabitants for the purpose of getting information, purchasing necessaries, or disposing of their little adventures. Nothing is more easy to conceive, than that the sailors might receive the infection without being aware of it; and it has certainly to my knowledge happened so.

"They have come from America perfectly healthy, touched at an infected island, there received it, and brought it down to St. Croix, without knowing their danger. Some men there are who concern themselves very little what effects their conduct may have on their fellow-citizens, provided they can escape detection, and accomplish their views of gain and interest. And such are mostly to be found among those who carry on a forced or illicit trade. With regard to such people it particularly behoves the police of every country to be on its guard against the importation of infection." p. 234, 5.

The destruction of human life in the West-Indies by pestilential fever, of latter years must have been great indeed, for it is stated by Dr. Gordon, upon the first authorities, that "the French, in sixteen months, out of twenty-eight thousand men had lost two thirds of the number, and of the remainder not six thousand were capable of bearing arms."

"To troops accustomed to the hardships of war, as they were," says our author, "and to warm climates, no other cause could have occasioned so great and sudden a loss, but a malignant pestilence, and its existence among them I believe is not denied. Add to what is above related, the depopulation of flourishing cities in North

America, of Cadiz, Malaga, and Gibraltar, and they will contribute to form an accumulation of evidence superior to any argument. Its irresistible force must establish the fact, that the pestilential fever which has destroyed so many thousands in the western world, and now, [1805] threatens Europe with devastation, is of a highly contagious nature. The British government, though late, seemed now fully convinced of it, and proper precautions are now established by authority.

"If the measures adopted," continues the Doctor, "are proportioned to the exigency of the occasion, and the observance of them properly enforced, I have no doubt but that Great Britain will be protected, or very partially affected, by this destructive scourge, and even the colonies liberated from its power.

"But to accomplish this purpose all nations must combine. The Americans, the Danes, and the Spaniards have shown laudable examples, and if the others concerned follow them with vigour, there will be every reason to hope that this pestilence will be exterminated." p. 246, 7.

Dr. Gordon gives the result of his observations and experience in the following words, being the substance of a communication to the quarantine commission of Copenhagen. It was his opinion,

"That the pestilential fever did not arise from putridity of any animal or vegetable substance, nor from uncleanliness and filth, heat, humidity, marsh miasmata, or any quality of the atmosphere; but was human contagion most probably first generated by disease in human bodies, propagated and continued by effluvia, from them, or substances that had come within the reach of their influence. That cotton, coffee, or any substance in any state whatever, that had not been impregnated by the above effluvia, could neither generate nor propagate the infection. That the usages of quarantine establishments against the plague, and those at Philadelphia against the above fever, with respect to the cargoes of vessels, appeared to me unnecessarily burthensome, tedious, and expensive.

"That precautions against their importation ought to be carefully taken, and the means of stopping their progress, when imported, strictly enforced. But that these should be confined to the sick themselves, their apartments, clothes, bedding, or whatever had been in the same room with them, or approached their bodies.

"That in an infected ship, apartment, or hospital, the proper means (which are well known to physicians) should be practised, and every place and substance purified by washing, ventilation, &c.

"That coffee, new goods in bales, barrels or boxes, or any merchandise whatever, that had not long been exposed to the effluvia of diseased persons, by serving them as beds to lie upon, or confined with them in a close apartment, could never communicate infection, and might be easily purified by simple ventilation.

"But that clothes, rags, bedding of all kinds, should be purified by being well soaked in water, and afterwards aired; or if suspected to be strongly impregnated with the miasma, to be immediately destroyed.

"I complained," continues Dr. Gordon, "at the obstacles that those concerned in trade threw in my way when executing my duty, particularly of the perverseness and forwardness of the pilots, who thought themselves, perhaps, interested in thwarting my measures. But if regulations be established for preventing the importation of so destructive a pestilence, the observance of them in every point should be enforced by severe penalties, for indulgence and relaxation must make them useless. At the same time I was convinced from experience that every necessary measure might be taken with very little impediment to trade." p. 248, 249, 250.

The doctor next gives some very interesting facts to prove that putrefaction and filth did not give rise to the pestilence, for which we must refer to the work itself, as they would occupy too much space in this review.

"Twelve years ago," says Dr. Gordon, "I warned the government in St. Croix, by memorial, and my fellow citizens by advertisements in the news-papers, of the contagious nature of the pestilence that threatened them. Much travelling since in America and the West-Indies, conversation with medical and other scientific men, and a continual addition of facts, have confirmed me in the opinion beyond the reach of doubt." p. 254.

In the appendix No. 2, we also find an extract of a letter from Dr. Haygarth to the College of Physicians at Philadelphia, dated 16th October, 1806.

The chief object of this letter appears to be, to inform the college that Dr. Fellowes, physician to the forces at Gibraltar, after much patient and judicious investigation, has discovered, beyond all doubt, the manner in which the pestilential fever was brought into that garrison.

It appears from Dr. Fellowes' account, that

"One Sancho had been an inmate of a family at Cadiz, when they were ill of this pestilence; that he left Cadiz on the 25th of August, 1804, and was attacked with this distemper in Gibraltar, whither he had returned on the 27th. Sancho kept a retail grocery shop. Near it was a canteen, or liquor shop, whither the fever soon spread. From these two houses, with which numerous visitors had undoubtedly hourly intercourse, who had not the least suspicion that they contained any infectious patients, many families in the near neighbourhood speedily received this mortal distemper. In consequence of the fatal error and positive assurances, that this pestilential fever was not infectious, it rapidly spread, attacked about twelve thousand, and became mortal to between five and six thousand patients."

"Dr. Fellowes," says Dr Haygarth, "visited Cadiz, where he received a full confirmation of the above account of Sancho. He went to Malaga, and discovered in what manner the pestilential fever had been imported into that city. In this journey he obtained au-

thentic information from the chief magistrates and physicians, that the ravages of this pestilence were not confined to places connected with tides, as is said to be the case in America; but that it was fatal to hundreds, in several inland towns in Spain." "Dr. Fellowes," continues the doctor, "will, I hope, soon publish his very valuable observations on this subject, which undoubtedly will be of inestimable importance to America." p. 259.

A letter from Dr. Robertson to Dr. Chisholm, next follows, which confirms the statement of Dr. Fellowes. Dr. Robertson visited Gibraltar after the ravages of the disease had ceased, and made many inquiries on the subject. He agrees with Dr. Fellowes, with regard to the manner of its introduction, and its highly contagious nature, and likewise mentions that those families who secluded themselves at an early period from all communication with those attacked with the disease, experienced a happy exemption from this fever.

The appendix No. 3, contains a letter from Dr. John Stewart, a gentleman of eminent professional abilities. We shall insert it entire, as Dr. Stewart's opinions are the result of actual observation, and sufficiently prove, that the city of New-York, in regard to cleanliness, is not inferior to any of those which have been exempted from the ravages of the yellow fever.

"Bath, March 2, 1808.

"My Dear Sir,

"I have been favoured with your letter of the 29th ult. In answer I have to observe, that during the short time I was at New-York, I had but little opportunity of making particular inquiry concerning the object referred to. I can, however, assure you, that I found New-York, as I did all the towns I passed through, from Portland, in the District of Maine, to Fredericksburgh, in Virginia, extremely

clean; and if a comparison was made between them and the seaport towns in other parts of the world I have visited, certain I am, it would appear decidedly to their advantage.

"I was at New-York in November, 1805. The weather was then cold, and the epidemic, which had prevailed to a great degree in the months of September and October, was then rapidly on the decline. On that occasion, I must say, I could not discover in the streets, docks, or slips, any collection of filth, or impure source, from whence it might be supposed exhalations could be produced that would give rise to the prevalence of epidemic fever.

I remain, &c.

JOHN STEWART.

Dr. CHISHOLM, Clifton.

We have thus attempted to give in our review, an abstract of the more important facts and observations in the work of Dr. Chisholm; from which it will appear that the doctrine of the contagious or infectious nature of the malignant pestilential, or as it has been commonly termed, yellow fever, and the possibility of its importation from one country to another, is not confined to a few of the physicians of the United States, but that it is received and supported by many of the most learned and experienced medical characters both of the West-Indies and of Europe.

ART. II. *An Inaugural Dissertation on the Disease termed Petechial or Spotted Fever. Submitted to the examining Committee of the Medical Society of Connecticut, for the County of Hartford. By* NATHAN STRONG, jun. 8vo. pp. 52. Hartford. Gleason. 1810.

THE disease which is the subject of this dissertation has lately prevailed with great mortality in several dis-

tricts of our eastern states. It has also made its appearance in some of the towns in the states of New-York, New-Jersey, and Pennsylvania. We have accordingly taken measures to obtain a correct knowledge of its peculiar character, the causes which induce it, and the mode of treatment found most successful. But as far as we have been able to procure information on these several subjects, we find such a diversity of opinion exists, even among those of our medical brethren who have been most conversant with the disease, that we do not conceive ourselves prepared to express an opinion upon either of those controverted points. We therefore, on the present occasion, take up the dissertation of Dr. Strong, with the sole view of making more public the facts which it professes to detail; especially, as the author appears to have had many opportunities of observing the disease on which he writes.

From this dissertation we learn, that the *Spotted Fever*, first made its appearance in the town of Medfield, (state of Massachusetts,) in the month of March, 1806; that in the month of March, 1807, it appeared in the city of Hartford, and shortly after in the town of Windsor. From that time to the present it has been met with at different times and in various places in the counties of Hartford and Litchfield: cases have occurred in almost every month of the year; but it has generally been most prevalent in the last winter and spring months. It does not appear that any circumstances relative to variation of season or local situations, can be adduced as having any influence either on the origin or progress of this fever, the inhabitants of vallies and of high hills being equally subject to its attacks. The minor symptoms of

the disease, and the mode of its accession, are stated to be various, but its great and leading features are supposed to be always the same. The author remarks, "Wherever it appears, in whatever manner it makes its approach, that *debility*, which is more to be dreaded than a strong man armed, is its most striking characteristic."

The effects which this disease produces are distinguished, first, as they relate to the vital; secondly, to the animal, and, thirdly, to the natural functions.

Under the first head (viz. vital functions) are included the sanguiferous system, the organs of respiration, the brain, and nerves. With regard to the circulation, the author observes, that the pulses were commonly frequent, always feeble, often irregular, and sometimes interrupted. A hard, tense pulse was rarely, if ever, felt. Epistaxis was sometimes an attendant on this disease, but menorrhagia more frequently occurred. Blind hæmorrhagies, or those where the blood flowing from the vessels of the skin is detained beneath the cuticle, forming petechial spots, were more common; this was so frequently observable during the first season in which the disease prevailed, that from that circumstance it took its name of *petechial* or *spotted fever*. These spots varied in colour from a common to a very dark purple, and the darker the shade the more fatal the prognosis. The function of respiration was variously affected; in some cases it differed but little from a state of health; in others, it was extremely difficult and stertorous. The voice was low and assumed a tone of peculiar melancholy.

A diminution of heat, is considered among the most striking symptoms of this disease. The hands, the feet, the limbs generally, and not unfrequently the whole surface of the body, were often observed to be below the natural temperature, and in some severe cases, the most powerful applications, whether external or internal, were insufficient to excite the natural warmth.

An affection of the brain was indicated, first by delirium. This was one of the first symptoms of the disease, though in different persons, it assumed different forms. Some were instantaneously seized with furious and violent distraction, accompanied with agonizing pain in the head, shooting through the temples, and their minds were strongly impressed with the idea that extreme violence was applied to their heads. In general, however, the delirium was of a milder form, and frequently assumed that of hysteria.

2dly. Coma was another symptom which strongly indicated an affection of the brain. This occurred in almost all of the extreme cases ; many became comatose in the first stages of the disease, and some within the first hour. This was not always a fatal symptom, for many were raised, by a free use of stimuli, from the most profound lethargy. When this could not be effected, an apoplectic stertor supervened, which frequently continued for some hours, and the approach of death was announced, by the breathing becoming easier and shorter, until it entirely ceased. When coma did not occur, syncope became frequent.

The nerves were likewise seriously affected ; this was particularly denoted by insensibility. A singular numb-

ness was frequently the first symptom, and in almost every case it occurred, during the progress of the disease. Some times it was confined to one, sometimes it extended to several limbs ; it very frequently affected the face, and often pervaded the whole surface of the body ; in some cases it even proceeded to a complete paralysis of the limb.

As to pains in this disease, they at different times attacked the head, the neck, the shoulders, the back, the breast, the stomach, the loins, and every limb of the body : the bowels were more exempt from pain than any other part. These pains were often of the dull heavy kind, but generally sharp and shooting, flying from one part to another.

Under the head of animal functions, as affected by this fever, the author comprises the senses and voluntary motions. He remarks that the prostration of strength, and the debility of the muscles of voluntary motion, are truly astonishing. These symptoms were generally exhibited in every stage of the disease, though in some cases the first attack was attended with a morbid increase of strength ; this, however, was of short duration, and debility soon ensued.

The organs of sense, were frequently affected. While speaking of the sense of feeling, (the author observes) it may not be improper to notice generally the affections of the skin. This was not only preter-naturally cool, but dry, and its continuance in this last state after the use of diaphoretics was considered an unfavourable symptom. Besides petechiæ, as already noticed, efflorescences similar

to erysipelas were sometimes seen; carbuncles were common in the convalescent state.

The eyes in some varied little from the natural appearance. A redness of the tunica albuginea indicated much danger. No instance of a yellow eye is recollected. The sight was often much impaired, frequently destroyed in the first attack, though in some cases this loss of sight was but of short continuance. Generally speaking, there was no morbid affection of the hearing; but the taste was frequently much impaired, so that in a number of cases clear brandy was as insipid as water.

It is not recollected that there was any derangement of the olfactory nerves.

Under the head of natural functions are included, digestion, secretion, and excretion, as well as the various affections of the alimentary canal.

The appearance of the tongue was various; in some cases upon the first attack it differed little from a healthy state. In some it assumed a whitish appearance, but was free from that raised secretion which is common in the early stage of inflammatory diseases. In the course of the fever it often became corrigated or shrivelled up, exhibiting a very formidable appearance. In some cases the tongue, upon the first approach of disease, was of a pallid hue; this was a fatal symptom, and generally, if not always, indicated a speedy death. This organ was frequently in a very torpid state, so that it was with difficulty it could be got out or returned into the mouth.

Ulcerations in the fauces or throat sometimes accompanied the first symptoms of the disease; these cases were generally fatal.

The fauces were often covered with apthæ, which frequently extended through the whole alimentary canal.

In violent attacks, swallowing was often very difficult; in a number of cases a complete paralysis of the organs of deglutition had taken place in two or three hours from the commencement of the disease. Deglutition was sometimes impeded, by spasmodic affections, which in one instance appeared similar to those of hydrophobia.

The stomach was always very seriously affected. Nausea and vomiting were frequently among the first symptoms, and often continued till death closed the scene. Notwithstanding this constant nausea and puking, the contents of the stomach were found to be in a natural healthy state. This is conceived to be a very important fact, as it evinces that the affection of the stomach, is principally, if not wholly of the nervous kind. A severe pain in the stomach was sometimes complained of, but the symptom which was the most distressing and most dreaded by the patient was an indescribable sensation about the upper orifice of this organ; they called it "a deadly feeling," "a death-like coldness or faintness," such as they never experienced or had any idea of before. The duration of this sensation, and the frequency with which it returned, were various. Some had a degree of it constantly; generally, however, it returned in paroxysms a number of times in the course of the day. Flatulence of the sto-

mach was sometimes a troublesome complaint. Thirst was rarely complained of, and when it did occur, nothing seemed to allay it so effectually as wine, or some modification of ardent spirit.

The appetite is impaired, but no sooner is the violence of the disease abated, than it generally returns, and the stomach craves, receives, and digests animal food, with great freedom, and without any ill effect.

The glandular and lymphatic systems suffered no great derangement. In many cases a torpid state of the neck of the bladder rendered the voiding of urine difficult; and it was sometimes necessary to have recourse to the catheter, though in most cases half a gill of brandy injected into the rectum, would remove the difficulty, and produce the desired discharge.

This disease generally arrives at its height in a short time, and if the patient survives three or four days, life, with proper attention, may generally be saved. We consider it unnecessary to follow the author through his detail of diagnosis and prognosis, as we trust that after the account which has been given of the symptoms of the disease, those must be sufficiently evident to every medical reader.

With regard to the mode of treatment, he observes, that the great indication is to support the powers of life. This he considers as most effectually answered by a nutritious diet, and the proper use of tonic, stimulant, and cordial medicines.

Evacuations of every kind, in every stage of the disease, should be employed with the greatest caution.

The kinds of stimuli to be used are divided into external and internal. Among the first are recommended, heat applied by means of hot bricks or stones, blocks of wood boiled, or bladders of hot water, hot flannels, dry or wrung out of hot water; sinapisms to the feet and limbs, blisters to the limbs, stomach, or head.

As internal stimuli are advised, hot soup well seasoned, hot teas made from pennyroyal or other aromatic herbs, with or without the addition of spirit; essence of peppermint, bottled cider, wine whey, clear wine, milk punch, brandy, geneva and old spirit, as the patient likes best, or which sets best on the stomach. In addition to the above are also mentioned, distilled cordials, Peruvian bark, opium, sub-muriate of quicksilver in small doses, camphor, ether, musk, and arsenite of potash. The author emphatically observes, "the body must be got warm, the skin moist, and the energy of the pulse restored, or *the life of the patient is gone.*" He remarks, that in some cases where obstinate vomiting surpervenes, clear brandy will stay on the stomach, when every thing else is rejected. When the patient becomes convalescent, he advises to diminish the quantity of diffusible, and to increase that of the more permanent stimuli; viz. to give less wine, brandy, &c. and more soup.

ART. III. *American Ornithology; or, the Natural History of the Birds of the United States: illustrated with Plates engraved aud coloured from original drawings taken from Nature. By* ALEXANDER WILSON. Philadelphia. Bradford and Inskeep. Imperial 4to. Vol. I. pp. 164. 1808. Vol. II. pp. 167. 1810.

THE ingenious writer informs us that he was "biassed, almost from his infancy, by a fondness for birds, and little less than an enthusiast in his researches after them." The volumes now before us convince us of the justness of this description; for no person but an ardent admirer and an accurate observer of this interesting department of nature, could have given such faithful accounts of the characters, habits, and manners, and at the same time such striking likenesses of the subjects on which he treats.

In the arrangement of birds into classes, orders, genera, species, and varieties, Mr. Wilson has followed the system of Dr. Latham, as published in his Index Ornithologicus and General Synopsis of Birds. Of all the writers on natural history, Buffon is the most popular and eloquent; the author has, with great propriety, imitated that celebrated writer's history of birds: but his imitations are the imitations of a man of an original mind, who thinks and acts independently.

This branch of the natural history of the United States has been but little cultivated in this country. Jefferson, Belknap, Bartram, Williams, and Barton, have, indeed,

written on the subject, but they have not pretended to more than general outlines, and their works, imperfect and deficient as they are, greatly exceed in point of fidelity and correctness those of foreigners, who have undertaken to illustrate this subject. This desideratum we have every reason to believe will be amply supplied by Mr. Wilson.

The habits and manners of animals is the most interesting part of the study of natural history. In their approaches to reason and in their exhibitions of system, design, and order, we take peculiar delight. In this important respect we confidently pronounce the author to be the most able writer on ornithology that has ever appeared. An acute and discriminating notice of the haunts of birds, their modes of constructing their nests, manner of flight, seasons of migration, favourite food, period of incubation, conduct to each other and to their young, songs, &c. forms the most important and attractive part of the work. It is well known that the birds, particularly of the United States, have different names, not only in different states, but frequently in different parts of the same state, and that great confusion has consequently resulted in the study of ornithology. This difficulty is overcome, not only by the admirable draughts of Mr. Wilson, but by his furnishing us with the local and provincial as well as with the scientific and popular appellations.

As a specimen of the style of the author, we present the following extract, taken from his admirable description of the mocking bird: (*Turdus Polyglottus.*)

"The plumage of the Mocking-Bird, though none of the homeliest, has nothing gaudy or brilliant in it; and, had he nothing else to recommend him, would scarcely entitle him to notice, but his figure is well-proportioned, and even handsome. The ease, elegance, and rapidity of his movements, the animation of his eye, and the intelligence he displays in listening and laying up lessons from almost every species of the feathered creation within his hearing, are really surprising, and mark the peculiarity of his genius. To these qualities we may add that of a voice full, strong, and musical, and capable of almost every modulation, from the clear mellow tones of the Wood Thrush, to the savage scream of the Bald Eagle. In measure and accents he faithfully follows his originals. In force and sweetness of expression, he greatly improves upon them. In his native groves, mounted on the top of a tall bush or half-grown tree, in the dawn of dewy morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every competitor. The ear can listen to *his* music alone, to which that of all the others seems a mere accompaniment. Neither is his strain altogether imitative. His own native notes, which are easily distinguished by such as are well acquainted with those of our various song-birds, are bold and full, and varied seemingly beyond all limits. They consist of short expressions of two, or at the most five or six syllables, generally interspersed with imitations, and all of them uttered with great emphasis and rapidity; and continued, with undiminished ardour, for half an hour, or an hour, at a time. His expanded wings and tail, glistening with white, and the buoyant gaiety of his action, arresting the eye, as his song most irresistibly does the ear. He sweeps round with enthusiastic ecstacy—he mounts and descends as his song swells or dies away: and as my friend Mr. Bartram has beautifully expressed it, 'He bounds aloft with the celerity of an arrow, as if to recover or recal his very soul, expired in the last elevated strain.'* While thus exerting himself, a by-stander destitute of sight, would suppose that the whole feathered tribes had assembled together, on a trial of skill, each trying to produce his utmost effect; so perfect are his imitations, he many times deceives the sportsman, and sends him in search of birds that perhaps are not within miles of him; but whose notes he exactly imitates: even birds themselves

* *Travels, page* 32. *Introd.*

are frequently imposed on by this admirable mimic, and are decoyed by the fancied calls of their mates; or dive with precipitation into the depth of thickets, at the scream of what they suppose to be the Sparrow Hawk.

"The Mocking Bird loses little of the power and energy of his song by confinement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog; Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings and bristled feathers, clucking to protect its injured brood. The barking of the dog, the mewing of the cat, the creaking of a passing wheel-barrow follow, with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He run sover the quiverings of the Canary, and the clear whistlings of the Virginia Nightingale, or Red-Bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat, by redoubling his exertions.

"This excessive fondness of variety, however, in the opinion of some, injures his song. His elevated imitations of the Brown Thrush are frequently interrupted by the crowing of cocks; and the warblings of the Blue-Bird, which he exquisitely manages, are mingled with the screaming of Swallows or the cackling of hens; amidst the simple melody of the Robin, we are suddenly surprised by the shrill reiterations of the Whipperwill; while the notes of the Killdeer, Blue Jay, Martin, Baltimore, and twenty others, succeed, with such imposing reality, that we look round for the originals, and discover, with astonishment, that the sole performer in this singular *concert* is the admirable bird now before us. During this exhibition of his powers, he spreads his wings, expands his tail, and throws himself around the cage in all the ecstacy of enthusiasm, seeming not only to sing, but to dance, keeping time to the measure of his own music. Both in his native and domesticated state, during the solemn stillness of night, as soon as the moon rises in silent majesty, he begins his delightful solo; and serenades us the live-long night with a full display of his vocal powers, making the whole neighbourhood ring with his inimitable melody." Vol. II. p. 17, 18, 19.

UNIV. OF MICH.

It would be doing injustice to the artisans engaged in this work, were we to pass over, without notice, the masterly manner in which the mechanical part of these volumes is executed. The text is presented in all the luxury of modern typography; the engravings are exquisitely fine, and coloured with the most scrupulous regard to the originals, and the whole offered at a moderate price; so much so, as certainly to exclude all thoughts of pecuniary remuneration on the part of the author.

We close with reluctance our remarks on this truly valuable and splendid publication; confidently believing "that the able and enlightened friends of that country, whose natural history he is thus endeavouring to illustrate, will not leave him unsupported." In other respects he will reap a rich harvest of reward.

DOMESTIC INTELLIGENCE.

Report on the Yellow Fever which prevailed at Brooklyn, in the summer of 1809. *By* Dr. Gillespie.

To Jacob Morton, *Esq. Secretary of the Board of Health, of New-York.*

Sir,

I received your letter of the 30th December last, in which you request me to forward you such information as I had obtained respecting the late yellow fever at Brooklyn. With this request I now comply to the best of my ability, considering the difficulties I experienced, and the reluctance I have met with in many persons to communicate the knowledge of facts which they possess.

The first case of yellow fever which occurred in Brooklyn last season, was that of Nathaniel Muller, respecting whom, from the time of his arriving in the town till his death, I give all the information I was able to obtain; namely, the testimony of two persons residing in the same house with him, which is contained in the following certificate:

I hereby certify, that I have lived as a boarder with Mrs. Smith, upwards of two years, and that on the morning of Friday, the 30th of June last, Nathaniel Muller was brought from the ship Concordia, by Capt. Coffin, the master of that vessel, to the boarding house of Mrs. Smith, he (Muller) being at the time very ill of a violent fever, of which he died between two and three o'clock of the next day, and was buried two hours afterwards, only one person attending the cart.

His fever appeared of a most violent kind, and I remonstrated with Mrs. Smith, for receiving in her house a person in his bad condition, and further, that Mr. Wilson (another lodger) and myself were very much afraid of the nature of Muller's disease, and refused after having seen him once for a short time, to go again into his apartment, as we were urged by Mrs. Smith, who said she believed him dying about day-light of Saturday, the day on which he died; but we thought his disease of a catching nature, and with the rest of the family did not chuse to be near his person, nor did any one sleep or sit up in his room, and very few had communication with him at all, and no person for any length of time while he was at Mrs. Smith's house.

Muller told me during the short time I saw him, on my inquiring what was his disease, that "*he knew he should die, for he believed he had* THE FEVER, *which he brought from the Havanna.*"

GILBERT BARKER.

Dated Brooklyn, Nov. 26th, 1809.

I do hereby certify that the above statement, as far as respects myself, to be correct and true.

her
MARY ⋈ SMITH.
mark.

The above Gilbert Barker, and Mary Smith, signed the above in presence of ROSEWELL GRAVES,
Agent of the Board of Health.

Muller, I have ascertained, sailed from the Havanna in the ship Concordia, Captain Coffin, about the begining of June last, at which place, I am credibly informed by three respectable persons now in this city, the yellow fever raged all last winter and spring, until the time when they left it, which was on the 23d of May, only a few days before the Concordia. This vessel arrived at the quarantine on, I believe, the 17th of June, and having complied with the regulations enjoined upon her there, she was permitted to come up, and anchored in the East River; after which she hauled into Sands' lower dock, at Brooklyn, about

half way between the old and new ferries. On the 29th of June, Muller had been discharged and gone to New-York a day or two before, where he sickened, and then returned to the ship at Brooklyn, and from thence was carried in her boat to Mrs. Smith's, where he died the next day.

Immediately after this, the officer of the Concordia ordered her hold to be washed and purified with vinegar, which induces at least the suspicion that he apprehended something malignant in the nature of Muller's disease.

The Concordia went down in consequence of the order of your board on the 26th July. But the disease by the 12th of July had already appeared in different persons. Doctors Ball and Wendall have certified in the public papers that they had attended five cases of it at that date (see their certificate of August 21st.) They also state in answer to Dr. R. Seaman, that "of those of our patients *first* taken, (and we have observed the first case,) eight can be traced to persons having connection with different ships."

Mrs. Spencer, who died on the 10th of July, and was the first case of the inhabitants that excited particular alarm in the town, was a sailors' washer-woman; and, moreover, she died in one of the dwelling houses nearest the Concordia. It will appear, too, from the map* which accompanies this report, that the disease was from beginning to end *almost exclusively confined within a circle of two hundred yards semi-diameter from that vessel.* It is also true, that the early cases and deaths were in Fisher's Row, or Dock-street. Several cases afterwards

* This map is in the possession of the Board of Health.

occurred at the new ferry, viz. John Jackson, who was sent to the New-York hospital on the 18th of July, and died on the 20th; and John Donlevy, sent to the almshouse of this city on the 18th of July, and died the same day. They were both ferrymen in the employ of Mr. Ammerman, who also died on the 28th July. The following account of the disease in Dock-street, which, as Dr. Ball informs me, was the place alluded to in his certificate, is from a letter published by Doctors Ball and Wendall, July 26th. "That a fever attended with the most malignant symptoms, which seized as it were a whole neighbourhood in a moment, and which, with the rapidity of a pestilence, hurried its unhappy victims from a state of perfect health to their graves in the short period of four and six days, notwithstanding the most prompt and assiduous medical attendance, is a fact too awfully true to be in the least questioned."

Two different causes have been assigned by the public, as well as by physicians for this epidemic. The one that it derived its origin solely from local causes; the other that it was to be attributed to a contagion imported at a season of the year when the local circumstances of the place were favourable to its extension. It is stated in favour of the first, that it originated from an extraordinary assemblage of nuisances in the lower parts of the town of Brooklyn, consisting of a variety of putrefying vegetable and animal substances, together with water lodging in many low, sunken places, particularly at the New Ferry, and also, that it was partly owing to the contents of the *mud turtle** being exposed for some days on the wharf of that ferry, so as to be offensive to the neighbourhood.

* A machine for cleansing docks.

But to this it might be answered, that as the part of the village here spoken of has for several years past been in nearly the same situation as respects cleanliness, as it was last season, and as many of the summers of those years were extremely sultry and favourable to the production of yellow fever; nay, when it has actually raged in New-York, and once at the Wallabout,* and not at this spot, it is most extraordinary, that it should have made its first appearance here, and destroyed from thirty to forty lives in a summer so very remarkably cool as the last. As to the fact respecting the relative accumulation of nuisances last season, and those that preceded it, I am not competent to judge. On this point, therefore, I shall content myself by subjoining the two following letters.

New-York, December 12th, 1809.

SIR,

Agreeably to your request, I took particular notice in surveying the sickly neighbourhood at Brooklyn, concerning the elevation of the ground above high-water mark, as well as the situation of the streets, yards, or buildings; and found the same as follows, to wit:

To give an opinion in general of the ground and situation of that part of Brooklyn, I find the ground along Front-street, from twelve to twenty feet above high-water mark, and descending along Dock-street and Main-street to Water-street, over a sandy soil. Water-street and that part towards the river is new-filled ground, and only three feet above high-water, but it does not appear to me to be more filthy, than is common in streets adjoining wharfs and slips in this city. The only places appearing to me to be offensive, are behind the Gin Distillery, and a narrow street leading from Dock-street to the Old Ferry, occupied by stables, &c. &c.

* A place about one mile distant, north of Brooklyn, on the same shore.

The yards behind Brooklyn Hotel and Captain Smith's, are also occupied by stables, where manure is collected; but I could not perceive any offensive smell, and in general the yards are roomy and clean. Back-Alley is a high, open, and clean street, having only seven dwellings, and two work-shops on it. The store houses erected along the wharfs in that part of Brooklyn are clean, and mostly new buildings.

I am with great esteem, your obedient servant,

CHARLES LOSS,
City Surveyor.

Dr. GILLESPIE.

NEW-YORK, Dec. 21st, 1809.

DEAR SIR,

Agreeably to the request of yourself and the Secretary of the Board of Health, I went to Brooklyn yesterday, in order to obtain information from the inhabitants there respecting the origin of the late epidemic which prevailed in that place.

The first enquiry I made was of a Mr. Chichester, who resides near the New Ferry. He informed me that the first case was a man by the name of Muller, who came in the ship Concordia, from the Havanna, and that he died at a Mrs. Smith's about the first of July—that shortly after *the fever* made its appearance at some boarding houses, at the lower end of Fisher-street, and soon spread to different parts of the village, particularly near the new ferry; he thinks the village was as cleanly as in former years.

The next person I conversed with was Henry Stanton, who stated the origin and progress of the fever much as Mr. Chichester. On enquiring of him the relative state of the village (as it respected nuisances) compared with former years, he replied, that excepting a quantity of pickled herrings which were stored in Sands' white store, and the sheds near it, the mud taken from the ship by the mud machine, and which lay on the dock and at the ferry-house and yard belonging to Ammerman, the ferry-master, the village was as cleanly as it had been for twenty-eight years, the time he had resided there.

From thence I proceeded to the houses mentioned by Chichester in Fisher-street, where I saw Mrs. Magee, at whose house four persons

sickened, (two of whom died) about the middle of July. Saw Michael Harvey, who lives opposite Magee's, and at whose house four persons died, from the 10th July to the 6th of August. He did not appear to recollect dates, but thinks a Mrs. Spencer died on the 10th July; a Mr. Bennet, who lived next door to Harvey, died about the 20th July, and a Mr. M'Intire about the same time. I then proceeded to Mrs. Smith's, at whose house Muller died, and obtained the certificate of his case signed by herself and Gilbert Barker, a boarder with her. I then waited on Dr. Wendall, and requested of him the dates of the deaths of those persons who died in Fisher-street, as they were his patients; but could not obtain any information from him.

I then called on Mr. John Doughty, the town clerk, from whom I got a list of the deaths of all the persons that died in the village during the last summer. I also enquired of several other persons, but received but little information from them: with the most of them there appeared a studious reserve.

I am, sir,
Your most obedient
humble servant,

DR. GILLESPIE. R. GRAVES.

I will only add, that as to the mud-turtle, she commenced cleansing the new ferry-slip, July 15th, more than a fortnight after Muller's death: and besides, the mud, which consisted of innocent bluish clay, was removed on the afternoon of the 20th. My informant, Mr. Chichester, who resides near the spot, says he stood for some time on this accused baked heap of clay, some of which he crumbled with his hand, and applied to his nose, but could not even discover any unpleasant smell from it; and that on Sunday the 16th, the day after it was deposited, the weather being remarkably fine, a great number of passengers of every description were arriving at the spot from New-York, all day long. Besides, the machine has been there every season for six or seven years

past, particularly three years ago, when she cleansed out all the soft mud of the slip. These circumstances, I think, render it conclusive, that the machine had no agency in originating the disease.

It may, however, be said, 1st. If Muller died of a disease so highly contagious, how did it happen that no person received the disease from him? This is answered by the certificates of Mrs. Smith and Barker.

2d. As twelve passengers arrived in the Concordia, why where not at least some of them affected with fever? This seems a plausible objection at first sight, but on referring to their bond in the mayor's office, I find that they consisted of eight Frenchmen from the West-Indies, and four natives of New-Orleans. This class of people, from acquiring a West-India constitution, or seasoning, as it is called, together with temperate and cleanly modes of life, have always been considered not very liable to the yellow fever. There were also among them four transient persons bounded as passengers, all sailors. In fact, the whole of them may be considered as transient; for it is not known whether they continued in this city, or whether they left it immediately.

3d. Why did not the ship communicate the disease to persons that were on board her after she went to Brooklyn? As the vessel was unloaded and laid up, it is not probable that many persons were on board of her, although some doubtless were; but it does not appear that any of them went down into her hold, or remained any considerable time in the cabin, or eat, or slept on board. But within a few days after coming to the wharf, her hold was entirely white-washed. Besides, it is never pretended

that a vessel coming to a healthy spot, will at her first arrival, and before the atmosphere is rendered impure, communicate contagion to all that approach her.

I have thus stated such facts as I possess respecting the yellow fever at Brooklyn. These I have endeavoured to obtain from the best information I could on the spot; and I trust it will be found that I have stated them with the candour and impartiality that is due to myself, as well as the respect I owe the guardians of the public health.

I have to apologise for the unexpected delay of this report, which has arisen from the following circumstance: I was incidentally informed by Dr. Wendall, in one of my visits to Brooklyn on the subject of this enquiry, that after the death of Muller, he had addressed a letter to captain Coffin, (captain of the Concordia) respecting the condition of that vessel and crew. The reply to this letter, he said, unfortunately contained an injunction of secrecy as to part of its contents. Dr. W. however assured me he would endeavour to procure the consent of captain Coffin, on his return from sea, to my perusing the letter; and in the mean time earnestly requested that I would in no manner till then allude to it. Captain Coffin did not, as we expected, return here, but as I have been lately informed by his consignee, has sailed from a southern port on another and long voyage. I hope, therefore, that the Board will excuse a delay in this communication, which has arisen from a desire to connect with it every circumstance I could collect relative to the subject of its contents.

JOHN D. GILLESPIE.

New-York, June 5th, 1810.

Inland Navigation.

WHOEVER considers the great advantage that commerce has derived in the ancient empire of China, or the modern empire of Russia, from the numerous canals by which those countries are intersected, will not wonder that we have formed sanguine expectations concerning the benefits which the state and city of New-York may derive from inland navigation.

It is known to many of our readers that there is a sufficient supply of water upon the highest ground between Albany and lake Ontario, to perfect an easy and safe navigation between those places. The company who have the direction of *The Western Inland Lock Navigation*, have been employed in the improvement of this communication. But little more has hitherto been done than to show the benefits of lock navigation. We have a great and fertile western country, whose produce should come to Albany by a safe and cheap conveyance, and there is a country farther to the westward, that must give sustenance to millions, who will probably receive their foreign supplies through the city of New-York. It is believed that canals of a moderate depth, but of sufficient magnitude (as in Flanders) to carry boats of fifty or sixty tons burthen, may be conducted from the Oneida lake, by way of the Seneca lake to lake Erie. The country in general is level and abounds in small rivers. Whether that canal should pass from the waters of Genesee river, by those of Cataragus creek, into lake Erie, or by some other more practicable route, will probably be determined in a few months.

When foreign supplies have entered lake Erie, it is easy to discover that they may be conducted, at a small expense, to the inhabitants of the Western States. It is known that, in the spring season, when the snow has melted, people pass in their boats, from the waters of Michigan, or Miami of the lakes, to the waters of the Wabash or Illinois. It will readily be perceived that canals of a moderate depth will convey such boats when the waters have subsided. Probably the time is not far distant when the people of the Wabash, or on the waters of the Ohio, will receive their European and India supplies, by the way of Hudson and the Mohawk rivers, cheaper than they can obtain them by the Mississippi or any other channel of conveyance. We observe with pleasure that the legislature of this state have entered with spirit into the consideration of inland navigation, and we persuade ourselves that the business will be properly executed ; for it is committed, as all national matters should be, to men of capacity and public spirit, without regard to their political sentiments. The commissioners have already entered upon the duties of their important mission. The following copy of a vote of the legislature, passed at their last session, will explain the object of their appointment.

STATE OF NEW-YORK.

In Senate, March 30th, 1810.

Whereas the agricultural and commercial interests of this state require that the inland navigation from Hudson's river to lake Ontario and lake Erie be improved and completed on a scale commensurate to the great advantages derived from the accomplishment of that important object. And whereas it is doubtful whether the resources of the Western Inland Lock Navigation Company are adequate to such improvements, Therefore,

Resolved (if the honourable the assembly concur herein) that *Goveuenr Morris, Stephen Van Rensselaer, De Witt Clinton, Simeon De Witt, William North, Thomas Eddy,* and *Peter B. Porter,* be, and they are hereby appointed commissioners for exploring the whole route, examining the present condition of the said navigation, and considering what further improvements ought to be made therein, that they be authorised to direct and procure such surveys as to them shall appear necessary and proper in relation to the object, and that they report thereon to the legislature at their next session, presenting a full view of the subjects referred to them, with their estimates and opinions thereon.

And whereas numerous inhabitants of the counties of Oneida, Madison and Onondaga, have by their petitions represented, that by reason of the spring freshes, the Oneida lake is usually raised so high as to inundate large tracts of land adjacent thereto, which are thereby rendered unfit for cultivation, and highly injurous to the health of the neighbouring inhabitants, and that the said evils may be easily remedied by removing a bar and deepening the channel at the outlet of the said lake, Therefore,

Resolved (if the Hon. the Assembly concur herein) that the commissioners above named be, and they are hereby directed, to examine the subject of the said petitions, and to report to the legislature their opinion as to the practicability, the expense, and the effects of removing the bar and deepening the channel at the outlet of said lake.

By order,

S. VISSCHER, Clerk.

In Assembly, March 15th, 1810.

Resolved, that this house do concur with the honorable the Senate in their preceding Resolutions.

J. V. INGEN, Clerk.

Account of the Sheep-Shearing at Clermont, the residence of the Hon. Robert R. Livingston, late Minister to France: communicated in a letter to Dr. Hosack, from the Hon. Edward P. Livingston, Esq.

Clermont, 19th June, 1810.

DEAR SIR,

I embrace the earliest opportunity, to fulfil my promise of sending you the result of the sheep-shearing at Clermont. As the wethers have not yet been shorn, my account of the quantity of wool cannot be so particular as I could wish, but the facts which I am now able to furnish, will, I believe, afford the information you requested of me.

On the morning of the 15th instant, about two hundred respectable farmers, and other gentlemen from this and the neighbouring states, assembled at the house of Mr. Livingston, when the different flocks, amounting to two hundred and five ewes of different grades, (from half to full bred both included,) a number of rams, and about sixty wethers were shown in their fleeces; together with about two hundred lambs, from three-quarters to full bred, both included. The common flock, with their half bred lambs, amounting to two hundred and sixty-eight, were not shown, as they had been shorn about ten days before. The shearing was performed in the presence of numerous spectators, all of whom were fully convinced by this exhibition of the superiority of the Merino flocks. And indeed, circumstances that passed under their eyes must have convinced the most prejudiced. Although nine-tenths of the ewes had lambs, yet the following was the produce of their fleeces, which you will find proportioned

not only in value but in quantity to the purity of their blood. The sheep were kept as clean, as plenty of litter during the winter, and extensive pastures in summer could make them. In addition to which, the week before shearing, such torrents of rain fell for six days and nights in succession as had washed their backs and their sides. Previous to the shearing they were taken up and the tags cut off, so that they were much cleaner than unwashed Merinos generally are. All the rams and part of the ewes were shorn on the 15th, and finished on the 16th: a number of gentlemen remaining to inspect the shearing during the whole time. Every fleece was rolled up and weighed, and the weight immediately entered into a book, so as to avoid any possibility of mistakes.

The following table shows the result.

Account of the Clermont Sheep-Shearing, on the 15th and 16th June, 1810.

Clermont Stock Rams

Rambouillet,	lbs. 9.
Clermont,	9.
Jason, a Shearling, or one year old ram,	11 11 oz.

						heaviest.		*lightest.*	
					lb.	oz.	lb.	oz.	lb.	oz.
Average weight of fleeces of full bred ewes,					5	13	8	12	3	7
Average	do.	do.	of 7-8	do. ewes,	5	6	8	4	3	
Average	do.	do.	of 3-4	do. ewes,	5	3	7	9	3	
Average	do.	do.	of 1-2	do. ewes,	5	1	8	0	2	8

One old ram was shorn, that gave seven pounds; but as this is below the standard which Mr. Livingston has

established for his stock rams, he has let him for the two last seasons.

On the morning of the second day, those gentlemen who had previously engaged lambs had them taken up and marked, and such was the demand for the higher grades, that many were disappointed in not being able to procure them. The lambs sold at the following prices:

Full bred ram lambs - - - - - - - - -	$1000.
Fifteen-sixteenths bred ram lambs - - - - -	250.

These last would have readily sold much higher, had not that price been long since fixed for this season. Five hundred dollars were offered and refused for one of a year old, by a gentleman who purchased him at Clermont last year, and exhibited him to show the beauty of his fleece; and contracts have already been made at four hundred dollars for the next year, for lambs of that grade. Seven-eighths lambs sold at one hundred dollars, and three-quarters, at thirty dollars each. The wool was sold previous to the shearing, to manufacturers in this and the neighbouring states, at the following prices, unwashed as it came from the sheep's back. Full bred, two dollars per pound. Seven-eighths at one dollar and an half. Three-fourths at one dollar and a quarter, and half-bred at seventy-five cents per pound. Common wool unwashed will not bring more than twenty-five cents per pound. On these data it will be easy to compare the difference between the profit resulting to the farmer from these sheep, and a common flock.

I remain dear sir, your obed't serv't.

EDW. P. LIVINGSTON.

Elgin Botanic Garden, New-York.

AMONG the number of those distinguished friends of science in Europe, who have manifested an ardent desire for the extension of useful knowledge in these states, may be justly esteemed Monsieur THOUIN, the celebrated professor of Botany and Agriculture, at the *Jardin des Plantes* of Paris. This gentleman who has long sustained, by universal consent, the character of an eminent and successful cultivator in those branches of science, has, on several occasions, afforded abundant evidence of his disinterested zeal for their promotion. Dr. Hosack, the proprietor of the Elgin Botanic Garden, has repeatedly been favoured by him with a great variety of seeds, from the rarest and most valuable plants of the continent; and he is happy to add, that they have always been received in such a state of preservation, as scarcely in a single instance to have frustrated the liberal intentions of the donor. Indeed, many of the most valuable plants in his collection are the products of the seeds presented him by Monsieur THOUIN.

To the Hon. SAMUEL L. MITCHELL, M. D. Professor of Natural History, &c. &c. in the College of Physicians, the proprietor of the Botanic Garden is also indebted for many valuable additions made to his collection of living plants, as well as for many specimens added to his Herbarium, collected by the same gentleman, during his residence at Washington, (as Senator of the United States,) and in the Western parts of the state of New-York, when on his late tour to the falls of Niagara. The meritorious exertions of this gentleman on the floor of the legislature of this state, at their last session, in ob-

taining the act which was passed for the advancement of medical science, also merit the grateful acknowledgments of the profession.

Important additions of the native plants of Georgia have also very recently been made to this institution by JOHN LECONTE, Esq. whose acquaintance with the various departments of natural history, gives us reason to regret that he has not yet made an offering to his country of the fruits of his researches.

Native Magnesia in New-Jersey, discovered by Doctor Bruce.

"Although magnesia enters into the composition of many mineral substances, yet its existence in the mineral kingdom, in an uncombined state, has, till within these few years, been unknown."

At Hoboken, in New-Jersey, on the estate of Mr. John Stevens, is found a mineral which agreeably to the experiments of Professor Bruce, contains, in the hundred parts,

Magnesia,	70
Water of Crystallisation,	30
	100

Bruce's Mineralogical Journal.

Coal discovered in Pennsylvania.

An account of a coal mine in Rhode-Island with a view of the qualities of the coal compared with those of Europe, not long ago appeared in Boston, and has since

been re-published in the third supplement of Dr. Barton's Medical and Physical Journal, and in the Mineralogical Journal conducted by Dr. Bruce. We are happy to learn that a coal of a similar quality, which resembles that of Kilkenny, has also been discovered on the banks of the Susquehannah, in the neighbourhood of Wilkesbarry, in Luzerne county, Pennsylvania. From experiments made in this city in some of our breweries and smiths' shops, it is found to possess all the properties of the Kilkenny coal; which render it peculiarly valuable in the several manufactories of earthenware, in all kinds of pottery, in the burning of lime and bricks; and to those artisans with whom the casting of metal is a necessary part of their process. A specimen of it has been sent to the editors. We hope in a future number to present an analysis of it to our readers.

RALEIGH, (N. C.) *March* 1, 1810.

On Tuesday, the 30th of January last, at two o'clock, P. M. there was a fall of meteoric stones in Caswell county. Their descent was seen for a considerable distance round, and two reports distinctly heard at Hilsborough, a distance of thirty miles. A fragment weighing a pound and three quarters struck a tree in the new ground of a Mr. Taylor, near where some wood cutters were at work, who apprehending the fate of Sodom and Gomorrah, ran home without once looking behind them. Encouraged, however, by a woman, whose curiosity was superior to her fears, they returned with her to the place, and brought away the stone, which was still hot. We understand that governor Williams, of the Mississippi Territory, now in Rockingham, intends sending it to the chemical society in New-York to be analysed. It is,

he informs us, of a dark brown colour, porous, and probably contains iron.—*Public Paper.*

MEDICAL, LITERARY, AND BENEVOLENT INSTITUTIONS.

State Medical Society.

At the Anniversary Meeting of the Medical Society of the State of New-York, held at the Capitol in the city of Albany, on Tuesday, the sixth day of February, 1810, the following persons were elected officers for the ensuing year:

DR. NICHOLAS ROMAYNE, President.
DR. ALEXANDER SHELDON, Vice-President.
DR. ANDREW PROUDFIT, Treasurer.
DR. JOHN STEARNS, Secretary.

CENSORS.

Dr. Westell Willoughby, jun.	Dr. Abraham Allen,
	Dr. William Wilson.
Dr. William M'Clelland.	Dr. Joseph White.

COMMITTEE OF CORRESPONDENCE.

Dr. Nicholas Romayne,	Dr. Alexander Sheldon.
Dr. Andrew Proudfit,	Dr. John Stearns.
Dr. Henry H. Sherwood,	Dr. Oliver C. Comstock.
Dr. John Sofford,	Dr. Henry White.

The following Circular Communication from the Medical Society of the State of New-York, to the several County Medical Societies, for the year 1809, *will explain the nature and objects of this institution:*

To the President of the Medical Society of the County of—

SIR,

THE Medical Society of the State of New-York, view with much satisfaction the organization of the several Me-

dical Societies of the counties, by virtue of the law of the 4th of April, 1806, for regulating the practice of Physic and Surgery; and they entertain no doubt but due exertions will be made by every incorporated Medical Society, to satisfy the just expectations of the legislature and the public respecting these institutions.

This law not only contemplates the establishment of such regulations, in the practice of physic and surgery, as may give respect to the medical profession, and promote the public good; but also such as tends to improve our knowledge of the healing art, and encourage professional education. The society do not doubt, but that the powers with which the county medical societies are invested, will be exercised with moderation, and that nothing will be done to give offence to the public; they will recollect that *medicine* has been justly considered one of the liberal professions, and that this character can be supported only when it is exercised on principles just and liberal.

The Medical Society of the State, at their first institution, deemed it expedient to invite their members to such scientific investigations, as would be interesting to the profession, and important to the public.

In a new country, many of whose resources are still unknown, superior beneficial effects must result from favouring scientific researches; and though the pecuniary means of the society have been limited, yet they have offered premiums to encourage such inquiries as might be useful and interesting.

Few exertions have yet been made to examine and re-

cord the various productions of vegetable nature throughout the state; nor has much been done to investigate the several objects connected with the mineral kingdom, with the formation of the earth, and the aspect of its surface.

These subjects, the medical society of the state earnestly recommend to the attention of your society; and they make no doubt but a spirit of investigation will be duly encouraged.

As the medical profession can only be respectable in a well-informed community, and as the ignorant and illiterate are the only dupes of empyricism, the county medical societies will see the usefulness of exerting their influence to promote education, and of uniting their efforts with the Regents of the University for such purposes.

The science of *Medicine* comprehends almost all the sciences and useful arts, which contribute, in some form or other, to preserve health, and to prevent and cure diseases; it is, therefore, requisite, that the county societies should unite their efforts with the agricultural and other societies of the state, to aid in their labours the promotion of the useful arts.

It may also be useful for the medical societies to collect and record such historical facts as are connected with the settlement of their respective counties, and such other circumstances as will elucidate the history of the state.

Whatever relates to the causes, the nature, and cure of diseases, will obviously claim the attention of every medical society; and they will no doubt invite their respec-

tive members to the due exercise of their professional duties, as well as to those observations which may contribute to extend the usefulness, and add to the importance of the profession.

The medical society of the state cannot conclude this circular communication, without affording assurances of their perfect disposition to promote the respectability of the several county societies, and to exert their efforts to extend the usefulness of the medical profession.

By order of the Medical Society
of the State of New-York,
JOHN STEARNS, M. D. Sec'ry.

Albany, Feb. 6th, 1809.

Medical Society of the County of New-York.

At the anniversary meeting of the Medical Society of the county of New-York, held on Monday, July 2d, 1810, the following gentlemen were elected charter officers:

DR. JAMES TILLARY, President.
DR. WILLIAM MOORE, Vice President.
DR. JOHN ONDERDONK, Treasurer.
DR. WALTER W. BUCHANAN, Secretary.

CENSORS.

DR. WRIGHT POST. DR. DAVID HOSACK.
DR. ARCHIBALD BRUCE. DR. WILLIAM BARROW.
DR. JOHN NEILSON.
DR. JOHN R. B. RODGERS, Delegate.

Society of Useful Arts.

The following gentlemen were elected officers of the Society for the Promotion of Useful Arts, &c. of the state of New-York, for the year 1810, viz.

ROBERT R. LIVINGSTON, President.
SIMEON DE WITT, 1st Vice-President.
SAMUEL L. MITCHILL, 2nd Vice-President.
CHARLES D. COOPER, Treasurer.
JAMES LOW, Recording Secretary.
DAVID HOSACK, Corresponding do. New-York.
JAMES GEDDIS, do. Western District.

COUNSELLORS.

STEPHEN VAN RENSSELAER, Sen. Counsellor.

JOHN TAYLOR.	DEWTIT CLINTON,
G. W. VAN SCHAICK,	ISAAC HUTTON,
BENJAMIN DE WITT,	WILLIAM M'CLELLAND,
ALEXANDER MILLER,	ANTHONY VAN SCHAICK.

To the members of the Society for the promotion of useful arts of the state of New-York, and the lovers of the science of mineralogy in every part of the state.

The society for the promotion of useful arts of the state of New-York, having observed, that the science of mineralogy, which is so intimately connected with, and so eminently subservient to, most of the arts, and which has been so extensively and eminently cultivated in many other countries, is almost entirely neglected in our state, have endeavoured to do away that imputation, by passing a resolution for collecting and preserving such specimens of earths and metalic ores, as our state may afford.

In order to carry this desirable object into effect, the society for the promotion of useful arts invite the members of the society, as well as the lovers of science in every part of the state, to forward to the recording secretary in Albany, such specimens of earths, fossils and metalic ores, as they may severally meet with, and request them to accompany all such specimens with as particular an account of their natural (geological) situation, as possible,

and to forward with the specimens a portion of their *matrix*, the earthy or stony substance in which they were imbedded.

The society intend to arrange and preserve these specimens in a proper cabinet, for the inspection and use of its members, and those persons who may have contributed to it. By order of the Society,

JAMES LOW, Recording Sec'y.

American Academy of Arts.

At a late meeting of the American Academy of Arts, held at the government house, the following gentlemen were elected officers for the ensuing year:

ROBERT R. LIVINGSTON, President.
JOHN R. MURRAY, Vice President.
CHARLES WILKES, Treasurer.
JOHN G. BOGERT, Secretary.

DIRECTORS.

DEWITT CLINTON. WILLIAM CUTTING.
DAVID HOSACK. ARCHIBALD BRUCE.
ROBERT FULTON.

INSPECTORS.

DAVID HOSACK. WILLIAM CUTTING.
MALTBY GELSTON.

New-York Historical Society.

At a stated meeting of the Historical Society, held at the government house on Tuesday, the 9th of January, 1810, the following gentlemen were elected officers for the ensuing year.

EGBERT BENSON, President.
GOVERNEUR MORRIS, First Vice President.
DEWITT CLINTON, Second Vice President.

SAMUEL MILLER, Corresponding Secretary.
CHARLES WILKES, Treasurer.
JOHN PINTARD, Recording Secretary and Librarian.

STANDING COMMITTEE.

WILLIAM JOHNSON.	SAMUEL L. MITCHILL.
JOHN M. MASON.	DAVID HOSACK.
JOHN M'KESSON.	GUILIAN C. VERPLANCK.

ANTHONY BLEECKER.

DR. HUGH WILLIAMSON is appointed to deliver the oration at the next anniversary meeting.

Humane Society of New-York.

MATTHEW CLARKSON, President.
JOHN R. MURRAY, Treasurer.
J. VANDENHEUVEL, Secretary.
EDMUND H. PENDLETON, Attorney to the Board.

The Society having taken into consideration the means of recovering persons *apparently dead from drowning*, and of preventing the *fatal effects of drinking cold water*, have adopted and recommended to the notice of their fellow-citizens, the following directions, as in their opinion best calculated to effect these important objects.

Directions for the recovery of persons apparently dead from drowning.

1st. Avoid any violent agitation of the body, such, as *rolling it on a cask*, or *hanging it up by the heels*, but carefully convey it with the head a little raised, to the nearest house.

2d. Strip and dry the body, and lay it in a warm blanket, which must be renewed every few minutes. If a *child*, place it between two persons in a warm bed.

3d. Immediately apply warm spirits or brandy to the *temples, breast, belly, feet, and hands;* at the same time, the whole body should be diligently rubbed with warm woolen cloths, or if at hand, immerse the body in a *warm bath.*

4th. Introduce the pipe of a pair of bellows into one nostril, keep the other nostril and the mouth closed, inflate the lungs till the breast be a little raised, the mouth and nostrils must then be left free, and the chest gently pressed in imitation of natural breathing, the bellows should then be applied as before, and the whole process repeated and continued at least fifteen or twenty minutes.

5th. Inject into the bowels by means of a syringe a pint of warm *spirits and water*, composed of one part of the former to two of the latter: this injection the Society prefer to *tobacco smoke*, usually recommended in cases of this sort.

6th. When the physician who has the care of the apparatus, arrives with the same, he will, with the machine for this purpose, inject into the stomach some warm *spirits and water*, with a small quantity of *spirits of hartshorn*, open a vein, or cause such other remedies to be applied as are indicated.

7th. Renew the external application of hot spirits to the surface of the body, and diligently continue the friction with woolen cloths at least two hours, or till signs of returning life are apparent.

8th. *Do not despair*—By perseverance in *warm friction alone* many lives have been restored, and in some instances where the bodies have remained in the water for the space of *half an hour.*

—

Directions to prevent the fatal effects of drinking cold water.

1st. Avoid drinking whilst the body is heated, or during profuse perspiration.

2d. Wash the hands and face with cold water before drinking.

3d. If these precautions have been neglected, and *cramps*, or *convulsions* have been induced, let a *tea-spoon full of laudanum* be given immediately in a cup of *spirits and water*, and repeat the dose in half an hour if necessary.

4th. At the same time apply fomentations of spirits and water to the *stomach and bowels*, and to the *lower extremities*, covering the body with a blanket; or immerse the body in *a warm bath*, if it can be immediately obtained.

5th. Inject into the bowels a pint of *spirits and water*, mixed in the proportion of one part of the former to two of the latter.

With the view of carrying into effect the foregoing directions, the society have appointed six *physicians*, who are provided with the necessary apparatus, and whose province it is to take charge of such persons as are contemplated in this provision, and on whom our citizens are requested to call when accidents of this nature may occur.

Published by order of the Society,

THOMAS EDDY,
DAVID HOSACK, } Standing Committee.

New-York City Dispensary.

At a late meeting of the Trustees of this Institution, the following gentlemen were elected officers for the ensuing year.

REV. DR. JOHN ROGERS, President.
JAMES SCOTT, Treasurer.
ROBERT WATTS, Secretary.

CONSULTING PHYSICIANS.

WRIGHT POST.	WILLIAM MOORE.
DAVID HOSACK.	VALENTINE SEAMAN.

ATTENDING PHYSICIANS.

SAMUEL SCOFIELD.	BENJAMIN R. ROBSON.
FAYETTE COOPER.	E. F. R. SMITH.

JOHN D. GILLESPIE, Physician to the Kine-pox department.

ROGER M. BURN, Apothecary.

University of Pennsylvania.

The trustees of the University of Pennsylvania, with a view to a more complete system of *Medical Education* in that Seminary, have lately established a Professorship of NATURAL PHILOSOPHY for the medical department, and divided the Professorship of ANATOMY and MIDWIFERY into two seperate Professorships.

Dr. CASPER WISTAR, is elected the Professor of *Anatomy;* Dr. THOMAS C. JAMES, the Professor of *Midwifery:* and ROBERT HARE, jun. the Professor of *Natural Philosophy.*

College of Physicians of Philadelphia.

At a stated meeting of the College of Physicians, held on the 3d of July, 1810, the following gentlemen were chosen officers for the ensuing year.

DR. ADAM KUHN, President.
DR. SAMUEL DUFFIELD, Vice-President.
DR. THOMAS C. JAMES, Treasurer.
DR. THOMAS T. HEWSON, Secretary.

CENSORS.

DR. THOMAS PARKE, DR. CASPAR WISTAR,
DR. SAMUEL P. GRIFFITTS, DR. WILLIAM CURRIE.

Columbia College.

At the public medical graduation, held in the Hall of Columbia College, on Tuesday, May 1st, 1810, the degree of Doctor of Medicine was conferred on Mr. ROBERT MORRELL, after having defended his inaugural dissertation on Animal Heat, before the faculty of physic, and the other professors of that institution.

Medical Society of the City and County of New-York.

At a Meeting of the Medical Society of the City and County of New-York, held in the City-Hall, on the 1st of April, 1810, Mr. GERARDUS A. COOPER, was admitted a Licentiate for the practice of Physic and Surgery in this state.

Bill of Mortality, for Portsmouth, New-Hampshire, for A. D. 1809. *Communicated to the Editors, by* Lyman Spalding, M. D.

Complaints.	*Age.*	No
Aneurism	57 years	1
Angina Pectoris	18, 54 years	2
Aphtha	2 years, 2 weeks	2
Apoplexy	74, 48 years	2
Atrophy	2m. 2y 9, 1, 1, m 1, 1, 70, 60, 54y	10
Cholera of infants	6 weeks	1
Consumption	35, 33, 22, 40, 39, 34, 50, 35, 32, 20, 15, 35, 36, 39, 32, 24, 35 y.	17
Convulsions	4m 2d 6w 3m 65y 1w 1 2 2m 2y 6m	11
Debauchery	58 years	1
Dropsy in the brain	1y, 8, 5, 2 months	4
Dysentery	4 months	1
Erythema	2, 1, 3 months	3
Fever pulmonic	78, 70, 56, 68, 69, 70, 77 years	7
Fever typhus	48, 65 years	2
Iflammation of the stomach	68 years	1
Mortification from ossified arteries	77 years	1
Old age	97, 94, 84, 78, 85, 85, 78, 81, 75y	9
Palsy	69, 50 years	2
Quinsy	4 months	1
Scirrhus liver	55 years	1
Spina bifida	10 months	1
Sudden	57, 67 years	2
Syphilis	39 years	1
Casualties.		
Choaked	5 years	1
Suicide	51 years	1
Births.		
Males 146 / Females 143	289	
Still born,	8	
Marriages,	69	
	Total	85

Portsmouth, the capital of the State of New-Hampshire, situated 43 degrees 5 minutes north latitude, and 6 degrees 26 minutes east longitude from Washington, contains about 7000 inhabitants.

The town has been remarkably healthful during the whole year; the deaths have been far less than in any year since bills have been kept.

Account of Patients admitted into, and discharged from the New-York Hospital, and their diseases, during the year 1809.

Patients' Diseases.	*Admitted.*			*Discharged.*								
	Remaining 31st Dec. 1808.	Admitted in 1809.	TOTAL.	Cured.	Relieved.	Request.	Incurable.	Disorderly	Eloped.	Died.	Total discharged and died.	Remaining 31st Dec. 1809.
Abscess	3	16	19	11		5					16	3
Abortion		1	1	1							1	
Amenorrhœa		4	4	3						1	4	
Anascara	1	15	16	9		3				4	16	
Asthma		4	4	1						2	3	1
Ascites		4	4	1		1			1		3	1
Burn	1	12	13	10		1					11	2
Cancer		2	2			2					2	
Caries	2	1	3	2						1	3	
Catarrh	1	12	13	8	1	1				2	12	1
Cephalalgia		3	3	1	1	1					3	
Cholera		2	2	2							2	
Consumption	11	42	53	13	3	6		1	1	22	46	7
Contusion	5	30	35	25	2	3				3	33	2
Constipation		2	2	1		1					2	
Cynanche Tonsillaris		4	4	3						1	4	
Cataract		2	2			2					2	
Concussion	2		2	2							2	
Debility		10	10	5			1		1		7	3
Diarrhœa	1	13	14	4	2		1			6	13	1
Dyspepsia		3	3	2		1					3	
Dysentery	5	15	20	14		2		1		2	19	1
Dropsy		8	8	4	1					3	8	
Dislocation		3	3	1		1					2	1
Disabled	1		1	1							1	
Erysipelas	2	4	6	3		1	1			1	6	
Enteritis	1	2	3				1			1	2	1
Elephantiasis	1		1					1			1	
Epistaxis		1	1							1	1	
Excrescence		1	1	1							1	
Eruptions	1		1	1							1	
Fevers	12	64	76	57		6	1	1		7	69	7
Fistula	2	9	11	4		5					9	2
Fracture	4	20	24	12	1	1		1		1	16	8
Frost		22	22	18		1				1	20	2
Gonorrhœa	1	13	14	10		2	1		1		14	
Gravel		1	1							1	1	
Gastrodynia		1	1	1							1	
Hœmorrhois		2	2	2							2	
Carried forward	57	347	455	183	11	43	6	5	4	60	362	43

Account of Patients, &c. continued.

Patients' Diseases.	*Admitted.*			*Discharged.*								Remaining 31st Dec. 1809.
	Remaining 31st Dec. 1808.	Admitted in 1809.	TOTAL.	Cured.	Relieved.	Request.	Incurable.	Disorderly.	Eloped	Died.	Total discharged and died.	
Brought forward	57	347	445	183	11	43	6	5	4	60	362	43
Hœmoptysis		4	4	2						1	3	1
Hepatitis	1	4	5	2						3	5	
Hydrocele		2	2	1		1					2	
Hernia	1	4	5	3	1						4	1
Hydarthrus	2	9	11	6	1		1			1	9	2
Hydrothorax		1	1									1
Herpes		2	2	1							1	1
Hydrocephalus		1	1	1							1	
Hemiplegia	2	2	4	3	1						4	
Hypochondriasis		3	3	2					1		3	
Injured spines		3	3				1				1	2
Inflammation		5	5	4	1						5	
Incontinence of urine	1		1							1	1	
Jaundice		1	1	1							1	
Lumbago	1		1	1							1	
Mania	44	80	124	48	4	16			6	8	82	42
Menorrhagia		1	1			1					1	
Opthalmia	1	16	17	12	1	1		1			15	2
Odontalgia	1		1	1							1	
Paralysis	2	9	11	3	1	2	2				8	3
Paraphymosis		2	2	1	1						2	
Poison		1	1							1	1	
Pneumonia	7	31	38	26	1	2				8	37	1
Pregnant	7	32	39	32		2					34	5
Rheumatism	28	111	139	96	4	3	4	3	6	2	118	21
Swell'd testicle	1	10	11	8	1				1		10	1
Syphilis	51	188	239	158	9	20	1	8	3	10	209	30
Scrofula		3	3	1						1	2	1
Sprain	1	9	10	6	1	1					8	2
Stricture		1	1									1
Physconia splenica		1	1		1						1	
Sphacelus		1	1									1
Suppression of Urine		2	2	2							2	
Small pox	1	1	2	1						1	2	
Tumours	3	6	9	2	1	3				1	7	2
Vertigo		1	1	1							1	
Ulcers	33	140	173	96	3	17	2	11		7	136	37
Wounds	5	32	37	23	2	4		1	1	4	35	2
Total for year 1809,	250	1067	1317	777	45	116	17	29	22	109	1115	202

Observations on the Weather and Diseases of the City of New-York, from the 1st of January, 1810, to the 30th of June, inclusive.

In recording the weather and diseases of this city, the Editors avail themselves of the reports of the New-York Hospital, the City Dispensary, and the weekly bills of mortality, as well as of their own private observations. They will also occasionally introduce some practical remarks upon those diseases which are of most frequent occurrence, or which, from their fatality or other circumstances, merit attention.

JANUARY.

Average height of Farenheit's Thermometer in the shade.

A. M.	P. M.	P. M.
At 7	3	7
28	36	30

The weather until the 18th day of this month was remarkably mild, the mercury in the thermometer being seldom much below the freezing point. The wind chiefly from the south and south-west, accompanied with a humid state of the atmosphere. Considerable quantities of rain also fell. On the evening of the 18th a sudden alteration took place; the wind changed to the north-west, and blew a constant gale until the 23d, during which time the mercury was at 0; a degree of cold of such continuance had not been experienced for twenty years past.*

* This sudden and very remarkable change in the weather of this month occurred in many other of our states. At New-London (Connecticut) on the 19th, the mercury fell six degrees below zero, and the day was the coldest since 1780. At Boston it was nine degrees below 0. At Portsmouth the variation was in twenty-four hours fifty-four degrees, and on the twentieth the mercury fell thirteen degrees below 0.

The remaining days were mild and fair. A small quantity of snow fell on the 30th.

Prevailing diseases. They consisted chiefly of pneumonia, rheumatism, and catarrhal affections. Several cases of croup (angina trachealis) also occurred during this month. In one instance it appeared with great severity in a lady about twenty-five years of age, who had lately removed to this city from the southern states. This was the first attack she had ever experienced of this disease, having never been subject to it in infancy. Bloodletting and antimonial emetics, with a blister applied to the throat, were immediately employed, followed with small doses of calomel and James' powder. By these remedies she was immediately relieved. Some cases of typhus also occurred: but to persons labouring under *consumption of the lungs* this month was unusually fatal; sixty deaths from this disease are recorded in the bills of mortality.

FEBRUARY.

Average height of the Thermometer.

A. M.	P. M.	P. M.
At 7	3	7
29	39	35

Until the 10th of this month the weather was for the most part pleasant: but little rain; and wind generally from the south and south-west. On the 10th a considerable change in the temperature took place; the wind blew strong from the north-west. From the 13th to the 20th generally overcast and rain; wind south-west. The remaining days were mild and pleasant, though somewhat humid. Wind southerly.

Prevailing diseases. This month was remarkably healthy, excepting the usual inflammatory diseases which prevail at this season; but even these were few in num-

ber. Some cases of whooping cough are recorded as having proved fatal. Consumption of the lungs, the great outlet of human life in this city, also, in many instances, terminated fatally.

MARCH.

Average height of the Thermometer

A. M	P. M.	P. M.
At 7	3	7
34	43	38

The weather was unusually temperate until the 5th, when the wind blew very strong from the southward during the whole night, accompanied with some rain. On the 6th, 7th, and 8th, the wind continued from the same quarter and some hail, snow, and considerable rain fell. Overcast on the 13th and 14th, when we had more rain. On the night of the 20th, there fell about two inches of snow. The remaining days were generally overcast or rainy: wind north-east. The quantity of rain which fell this month was unusually great.

Prevailing diseases. Catarrh, sore throat, croup, ophthalmia, erysipelas, pleurisy, and other inflammatory diseases were frequently observed; some few cases also occurred of scarlatina, measles, and whooping-cough, which last diseases had been occasionally met with throughout the winter. Several instances of remitting fever, assuming the typhus character, appeared in the month of March.

APRIL.

Average height of the Thermometer.

A. M.	P. M.	P. M.
At 7	3	7
50	62	57

At the commencement of April, there was a quantity of rain, with the wind easterly. The weather afterwards

became clear and pleasant. On the 8th a quantity of rain fell, and the wind continued to blow from the north-east till the 15th, when it changed to the south-west, followed by a mild and agreeable state of the atmosphere. Towards the latter part of the month, considerably overcast, wind north-east, and on the 27th more rain. For the last three days there was a very heavy fog in the morning, and a humid atmosphere during the day. Wind easterly.

Prevailing diseases. Besides the usual inflammatory diseases of the spring, viz. catarrh, rheumatism, sore-throats, and pneumonia in its different forms, several cases of apoplexy occurred, in some instances proving fatal, in others attended with hæmiplegia, from which the patient partially recovered. Intermitting fevers were also frequently met with; some few cases of remittents, ending in a tedious typhus, occurred in this month as well as in the last.

MAY.

Average height of the Thermometer.

A. M.	P. M.	P. M.
At 7	3	7
56	71	64

The weather at the commencement of May was cool and pleasant, and on the night of the 3d a considerable quantity of rain fell. The remainder of the month was remarkable for the number of sultry days and its uninterrupted dryness. The mercury often rose to the height of 85, and on the 28th day was as high as 89 at 3 o'clock, in the shade. Vegetation in many parts of the country was not only suspended but destroyed, insomuch that many trees dropped their leaves as in autumn.

Prevailing diseases. In this, as in the preceding month, diseases of an inflammatory type prevailed; ophthalmia,

croup, inflammation of the tonsils, and pleurisy fell under our notice. In several instances also we met with hæmoptysis and uterine hæmorrhage. Whooping-cough, measles, and scarlet fever appeared in a few families ; but were rarely fatal. The scarlet fever in children generally assumed a mild character, readily yielding to the ordinary treatment. But in a few instances it occurred in women advanced in pregnancy ; in all of whom it produced abortion, and terminated fatally. Intermittents and remittents occasionally appeared throughout the month.

JUNE.

Average height of the Thermometer.

A. M.	P. M.	P. M.
At 7	3	7
64	75	66

The first three days of June were clear and pleasant, wind from the south-west. On the 4th we had a heavy thunder shower, followed by a violent north-east storm, that continued with short intermissions for several days, during which the temperature of the weather was so remarkably cool that fires and the usual clothing of winter were rendered agreeable. Between the 12th and 16th the heat became extremely oppressive, the mercury in the thermometer was several times as high as 85 ; the wind south-west. On the 27th a small quantity of rain fell.

Prevailing diseases. During the whole of this month, notwithstanding the vicissitudes of the weather, the city was unusually healthy. Some few cases of intermittent, remittent, and typhus fevers were occasionally noticed. Some deaths from diarrhœa infantum, dysentery, and whooping-cough, are also recorded in the bills of mortality.

But of all the diseases in this city, consumption of the lungs is of the most frequent occurrence, and most generally fatal. In some instances the use of mild emetics, given two or three times a week, as recommended by Dr. Reid, in his valuable work on Phthisis Pulmonalis, has been found of service, when exhibited in an early stage of that disease. By this practice, followed with the use of bitters, exercise on horseback, and a nutritious diet, we have witnessed some cases in which a perfect cure has been effected. For the most part, however, it obstinately resists the use of the lancet, blisters, mercury, fox-glove, and the other remedies usually prescribed.

Michaux's American Silva.

F. A. Michaux, M. D. well known as the author of an interesting volume of travels to the west of the Allegany Mountains, performed in 1802, and as the editor of the Flora Boreali-America, a work of his late distinguished father, is now in Paris, zealously engaged in arranging for publication the valuable observations on the woods of America, which he made during his second tour through the United States, in 1806, 7, 8. Our correspondent, in a letter, dated March the 9th, 1810, states, that M. Michaux had already made great progress in his undertaking, and that probably the *American Silva* will be republished either at New-York or Philadelphia, in the course of the present year. From the acquirements of M. Michaux, the indefatigable attention which he has bestowed on the subject, and the ardent zeal we know him to possess for every thing connected with botanical science, we have no doubt of receiving much valuable information from his work, and that it will prove an import-

ant addition to the present knowledge of our native forests, and of the various purposes to which they may be applied.

Bruce's American Mineralogical Journal.

The first number of the American Mineralogical Journal, conducted by Archibald Bruce, M. D. Professor of Mineralogy in the university of the state of New-York, has lately issued from the press of Messrs. Collins and Perkins. Believing that this country, in the variety and importance of its mineral productions, is not exceeded by any other in the world, and that a journal devoted exclusively to the elucidation of the geology and mineralogy of the United States, has been long wanting, we cannot but congratulate the public on the appearance of the present work.

Spafford's Gazetteer of the State of New-York.

A Gazetteer of the state of New-York, by Mr. H. G. Spafford, will in all probability appear during the present season. Judging from the author's circular address, this publication will embrace a more minute detail of the numerous objects of importance which claim the attention of the scholar and the man of business, than any work of a similar kind heretofore offered for public patronage.

Vanderdonk's History of New Netherland.

The Rev. Dr. Basset, of the Boght, near Albany, is at present engaged in preparing for the press, a translation, from the original Dutch, of Adrian Vanderdonk's work,

first published at Amsterdam in 1665. This book, which contains much curious and authentic information of our early history, and many interesting particulars relative to our animal, vegetable, and mineral productions, has now become so extremely scarce, that the antiquary himself will in vain search for a copy of it. These circumstances, as well as its being written in a foreign tongue, have induced Dr. BASSET to favour the public with the present translation, which we are confident will be received as a valuable document by every lover of American history.

American Edition of John and Charles Bell's Anatomy.

An American edition, (*printed entire*) of the ANATOMY OF THE HUMAN BODY, by *John and Charles Bell*, has lately been published by Messrs. Collins and Perkins, of this city. The acknowledged celebrity of the authors and of the work itself, is such, as to require no commendation from us. We should however do injustice to the enterprising editors who have issued this edition, not to notice the correctness and elegance with which they have compleated this great undertaking. The type and engravings do credit to our country, at the same time that the work is offered at a price less than half of that at which the London copy is sold. Both the student and practitioner of medicine will doubtless avail themselves of an opportunity of possessing this inestimable work.

FOREIGN INTELLIGENCE.

Pearson's Experiments on Expectorated Matter.

We have just received from that celebrated physician and chemist, Dr. George Pearson, of London, whom we are proud to enumerate among our correspondents, a copy of his valuable paper on this subject, lately read before the Philosophical Society. We regret that, through want of room, we are unable to give a minute account of the numerous interesting experiments which Dr. Pearson has instituted, in order to obtain a correct knowledge of the properties of the matter secreted by the bronchial membrane. We, however, shall insert the result of his observations, believing with him, "that the investigation of the properties of the animal fluids will afford gratifying instruction to the researcher in natural science, and important practical information to the physician."

The varieties of expectorated matter, according to Dr. Pearson, may be arranged under seven different heads.

I. The jelly-like semi-transparent kind of a bluish hue, excreted in a healthy state.

II. The thin mucilage-like transparent matter, so copiously expectorated in bronchial catarrhs.

III. The thick opaque straw-coloured, or white and very tenacious matter, coughed up in a great variety of bronchial and pulmonary affections; especially in that of tubercles.

IV. Puriform matter secreted without any division of continuity, or breach of surface of the bronchial membrane, very commonly occurring in pulmonary consumptions.

V. The matter which consists of opaque viscid masses, together with transparent fluid; or the second sort above stated, with nodules of the third or fourth kind.

VI. Pus from the vomicæ of tubercles.

VII. Pus from vomicæ by simple inflammation of the lungs, and without tubercles.

"Other kinds of matter, adds Dr. Pearson, are occasionally coughed up, such as calculi, masses of self-coagulated lymph; serous fluid; blood itself, and perhaps the vascular substance of the lungs; but I do not write on these matters, because they either do not belong to any particular recognised disease; or they are rare occurrences in some well known disease, and are too obvious to require description.

After having detailed at some length the sensible properties of the first five varieties of matter, to which Dr. Pearson has in this present paper restricted his attention, we are presented with an account of the action produced on them by caloric. Caloric has no effect of importance unless the temperature of the expectorated matter is raised to about 150 degrees. At 155, coagulation commences in the first, third, fourth, and fifth kinds. At the temperature of 160 or 170, a large portion of curd is formed. The second kind of matter does not afford the curdy masses at the temperature above mentioned; its viscid texture is destroyed, and it becomes a whey-like liquid. "After this agency of caloric, the expectorated matter is much less prone to putrefaction."

The several forms of matter were also subjected to the action of sulphuric ether; water, cold and hot, and acetous acid. The author's conclusions we shall insert entire.

"From the preceding experiments and observations, and from others which I might have related, it does not appear that the various kinds of expectorated matter differ in the ingredients of their composition, but merely in the proportion of them to one another.

"2. It has been shown that expectorated matter consists of coagulable, or, as it is also now frequently termed, *albuminous* animal substance, and of water impregnated with several saline and earthy bodies—that the largest proportion of the animal substance which may justly be called oxide, amounts to one twelfth, and in some very rare cases to one tenth of the expectorated matter, reduced to a brittle state by evaporation; and that the smallest proportion of this oxide, in rare instances, amounts to one forty-fifth of the expectorated matter; but that the usual proportions of it vary between one twentieth and one sixteenth of this coagulable oxide to the evaporable water, that is, between five and six per cent. of the expectorated matter.

"3. The impregnating substances have been shown to be muriate of soda, varying commonly between one and a half to two and a half per 1000 of the expectorated matter—Potash varying between one half and three fourths of a part per 1000—Phosphate of lime about half a part of 1000—Ammonia, united probably to the phosphoric acid; phosphate, perhaps of magnesia; carbonate of lime; a sulphate; vitrifiable matter, or, perhaps silica, and oxide of iron. But the whole of the last six substances scarcely amounting to one part in 1000 of the expectorated matter, it would be useless to estimate the proportion of each of them. It is very probable that the proportion and quantities of these ingredients, vary much more than now represented in different states of diseases and health.* It is very probable also, that some of the ingredients may occasionally be absent, and others of a different kind be present, agreeably to the different states, on different occasions of the other secretions.

"4. It is manifest that the different states of consistence of expectorated matter are owing to the proportion of albuminous or coagulable oxide, but I purposely avoid giving an account of the different conditions of health, on which the differences of consistence depend.

"5. The thicker the matter, the smaller I commonly found the quantity of saline impregnation. Hence in sudden and copious secretions of the bronchial membrane, the matter is asserted to be salt, and to feel hot. In such instances, the proportion of coagulable mat-

* *In one case, the opaque expectorated matter in a pulmonary consumption having been exsiccated to brittleness, became almost liquid after a night's exposure to the air.*

ter was small, but that of the saline impregnations, particularly of the muriate of soda and neutralised potash, so great, that the exsiccated expectorated substance tasted very salt, and presently grew moist, or even partially deliquesced; but the opaque ropy or puriform matter afforded a much larger proportion of exsiccated residue, which was but slightly salt, and generally only became soft on exposure to the air. This property of growing moist depends upon the potash.

"6. Each of the human fluids, according to my experiments, contains neutralised potash; at least, this is the fact of the blood, dropsy fluid, pus of abcesses, and pus secreted without breach of surface; the fluid effused by vesicating with cantharides; the urine; and in course in the very abundant secretion from the nose by a catarrh. The alkali being united to oxide of animal matter in these fluids, it is easily demonstrable.

"7. Although I think I have discovered many properties by which expectorated secretion may be distinguished from expectorated pus, I shall not speak of them, on this occasion, further than just to observe that the saline impregnation of pus, particularly that of potash, and muriate of soda, is in very much less proportion than in expectorated secretion; and hence it does not become moist after exsiccation on exposure to the air.

"8. It has been, I believe, uniformily asserted, that the circulating and secreted fluids are impregnated with soda; that it is especially in the matter secreted by the bronchial membrane. The experiments of others must confirm or disprove mine It seems, however, much more reasonable that the human fluids should be found to contain potash than soda united to some oxide or destructible acid; because the former alkali is daily introduced with the vegetable food and with the drink of fermented liquor, and it is as little likely to be destroyed as the muriate of soda also induced in the very same way. But our food and drink do not commonly at least contain the soda united to a destructible acid, or an oxide.

"9. It is plain from the preceding experiments, that expectorated matter belongs to the class of coagulable fluids and not of gelatinizable, or, as commonly asserted, mucous fluids. It differs from the coagulable fluid serum of blood, in forming a much thicker fluid with a much larger proportion of water: for serum and also the water of blisters, is quite liquid, although they afford, on exsiccation one twelfth to one eleventh of their weight of brittle residue, while some kinds of expectorated matter, of the consistence of mucilage, afford

only one fortieth of dry residue, and others of the consistence of thin paste afford only one fourteenth of residue.

"10. But for the unavoidable extent of this paper I should trouble the learned Society with various other conclusions and remarks, especially concerning the *globularity* of expectorated matter, which seems to indicate organization. Although ANTONIUS VAN LEWENHOECK, above a century ago, discovered the globularity of the blood, and even noticed it in other animal fluids, neither he nor any other person, as far as I know, investigated the subject in any fluid but the blood, till by Mr. HOME's acuteness and industry, at a very early period of life, it was observed in pus. I have in this paper related, that expectorated matter, especially the opaque ropy kind, as well as the puriform, is full of globules, and that except by such agents as destroy charcoal, they are scarcely destructible. Do these spherical particles consist chiefly of organized carbonaceous matter?

RECENT PUBLICATIONS.

A late discovery extremely interesting to Planters and Farmers, relative to fertilizing poor and exhausted ground, upon a cheap and easy plan, with some remarks and observations on Orcharding and Gardening. By George Reed Washington. Daniel Rapine.

Essay on Sheep; their varieties, account of the Merinos of Spain, France, &c. reflections on the best method of treating them, and raising a flock in the United States; together with miscellaneous remarks on sheep, and woollen manufactories. By Robert R. Livingston, L. L. D. &c. &c. Second ed. enlarged, 12mo. Collins & Perkins.

An Essay on the Climate of the United States; or, an inquiry into the causes of the difference in the climate between the eastern side of the continent of North America and Europe, with practical remarks on the influence of the climate on Agriculture, and particularly the cultivation of the Vine—"Rerum cognoscere causas."—Virg.—Philadelphia, Hopkins and Earle. 42 pages, 8vo.

Memoirs of the Connecticut Academy of Arts and Sciences. Vol. I. part. 1.

TO CORRESPONDENTS.

Although we have considerably exceeded the number of pages originally proposed, we have still to regret the postponement of several valuable communications from practitioners of eminence in this country, besides other articles, of foreign intelligence, prepared for this number. Some important papers from Dr. ALIRE R. DELILE, our friend and correspondent at Paris, are also unavoidably omitted.